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Geotechnical
Environmental and
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Engineering

RTN 3-23246

Volume 3: Figures

Phase II Comprehensive Site Assessment, Method 3 Risk Characterization, and Phase III Remedial Action Plan

50 Tufts Street, Somerville, Massachusetts

Submitted to:
UniFirst Corporation
68 Jonspin Road
Wilmington, MA 01887

REF
354,
353
GEI

Prepared by:
GEI Consultants, Inc.
400 Unicorn Park Drive
Woburn, MA 01801
781.721.4000

July 14, 2008
Project No. 04516-2

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Ileen S. Gladstone, P.E., LSP, LEED AP
Vice President

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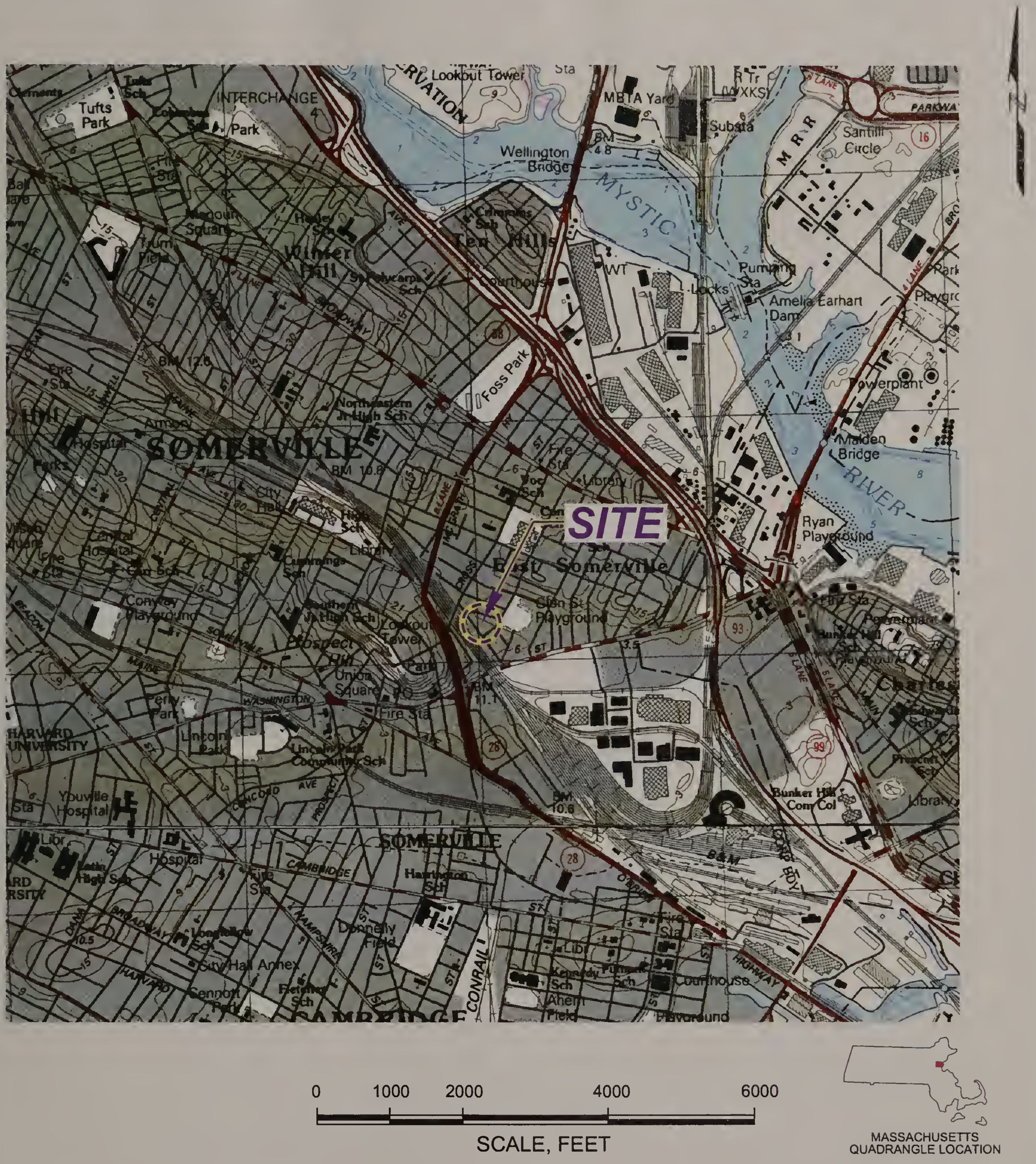

This Image provided by MassGIS is taken from
U.S.G.S. Topographic 7.5 X 15 Minute Series
Boston North, MA Quadrangle, 1985.
Datum is National Geodetic Vertical Datum (NGVD1929).
Contour Interval is 3 Meters.

Phase II CSA and Phase III RAP 50 Tufts Street Somerville, Massachusetts	GEI Consultants	SITE LOCATION MAP
UniFirst Corporation Wilmington, Massachusetts	Project 04516-2	July 2008 Fig. 1-1

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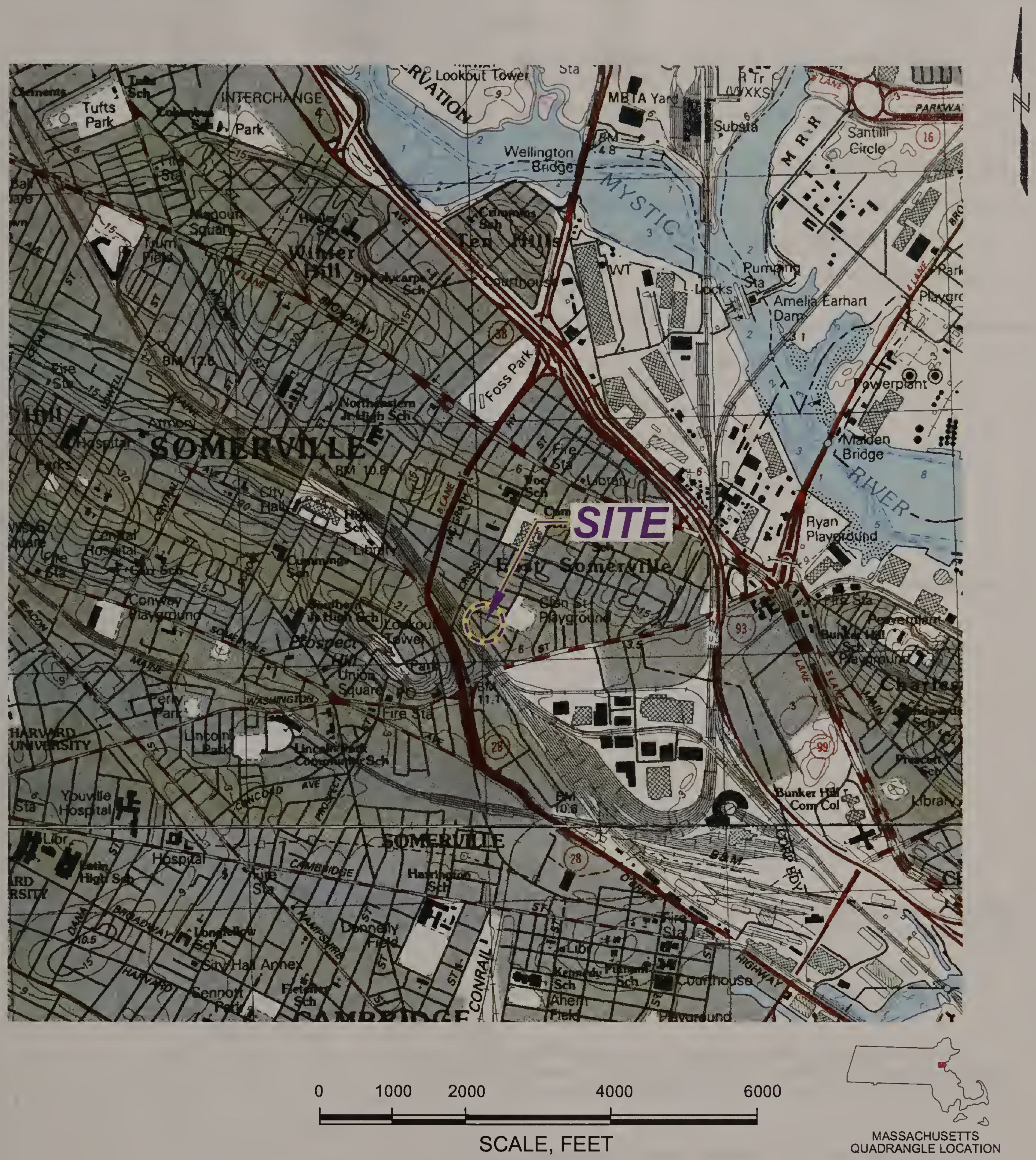

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Boston North, MA Quadrangle, 1985.
Datum is National Geodetic Vertical Datum (NGVD1929).
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Phase II CSA and Phase III RAP 50 Tufts Street Somerville, Massachusetts	GEI Consultants	SITE LOCATION MAP
UniFirst Corporation Wilmington, Massachusetts	Project 04516-2	July 2008 Fig. ES-1

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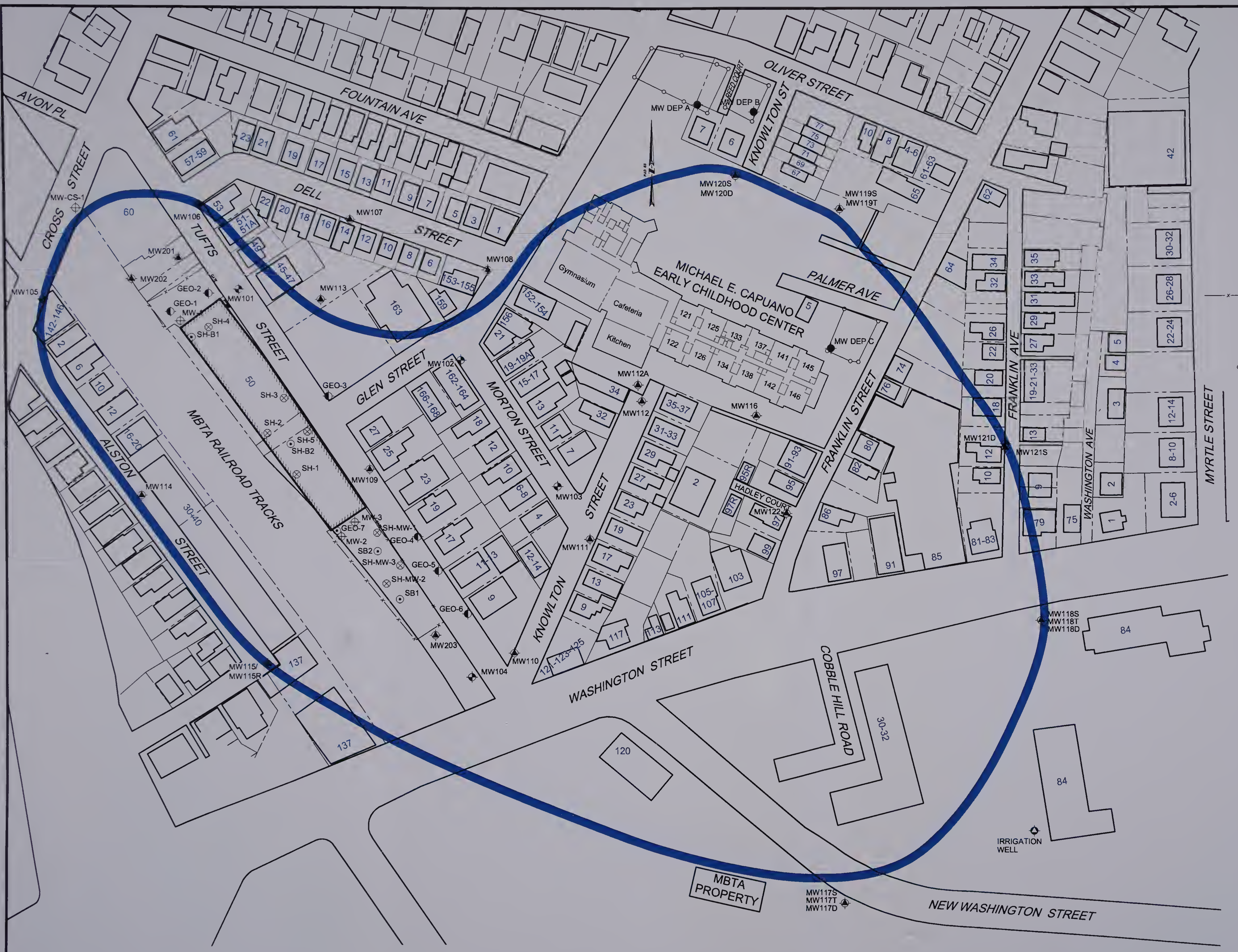

LEGEND:

▲	MONITORING WELL WITH SOIL VAPOR SAMPLE PORT INSTALLED BY GEI, JANUARY 2007 - JANUARY 2008
⊗	MONITORING WELL INSTALLED BY SANBORN HEAD ASSOCIATES, 2002
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⊕	MONITORING WELL INSTALLED BY GEI, MAY 2006
●	DRIVEN POINT MONITORING WELL INSTALLED BY MADEP, MAY 2007
⊕	MONITORING WELL INSTALLED PREVIOUSLY, DATE UNKNOWN
△	PREVIOUSLY INSTALLED IRRIGATION WELL
—x—x—	CHAIN LINK FENCE
138	ROOM NUMBER AT CAPUANO SCHOOL
▱	BOUNDARY OF COMMUNITY GARDENS
84	STREET ADDRESS
	MBTA = MASSACHUSETTS BAY TRANSPORTATION AUTHORITY
▬	DISPOSAL SITE BOUNDARY

GENERAL NOTES:

1. HORIZONTAL CONTROL FOR THIS PLAN WAS ESTABLISHED BY GPS AND IS BASED ON THE NORTH AMERICAN DATUM OF 1983.
2. STREET AND PROPERTY LINES BASED ON SOMERVILLE ASSESSORS' MAPS AND ARE BEST FIT RELATIVE TO THE LOCATION OF THE 50 TUFTS ST. BUILDING.
3. MONITORING WELL LOCATIONS AND ELEVATIONS, AND CAPUANO CENTER COMMUNITY GARDEN LOCATIONS WERE ESTABLISHED BY ON THE GROUND SURVEYS BY BSC GROUP, INC.
4. GEI OBSERVED ABANDONMENT OF SH-MW1 AND SH-1 THROUGH SH-5 IN 2007.

0 150 300
SCALE, FEET

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DISPOSAL SITE MAP
AND
SITE BOUNDARY

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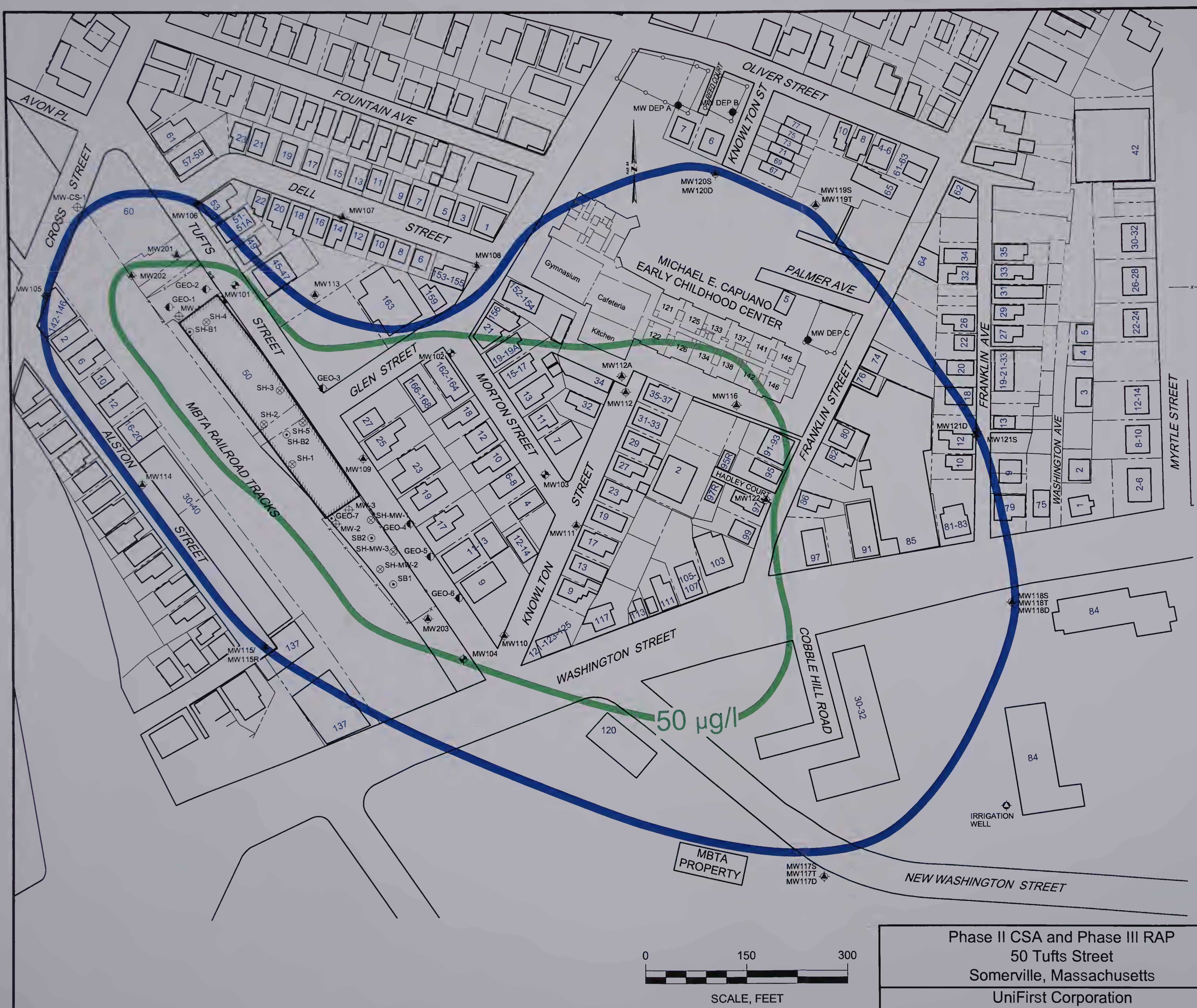
July 2008
Fig. ES-2

N:\04516\#Drafting\045160-2\Phase II CSA Phase III RAP\045162-38



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- BOUNDARY OF COMMUNITY GARDENS
- 84 STREET ADDRESS
- MBTA = MASSACHUSETTS BAY TRANSPORTATION AUTHORITY
- 🟦 DISPOSAL SITE BOUNDARY
- 🟩 EXTENT OF PCE CONCENTRATION IN GROUNDWATER GREATER THAN OR EQUAL TO 50 µg/l.
- µg/l = MICROGRAMS PER LITER

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DISPOSAL SITE MAP
AND
SITE BOUNDARY

Project 04516-2 | July 2008 | Fig. 1-2

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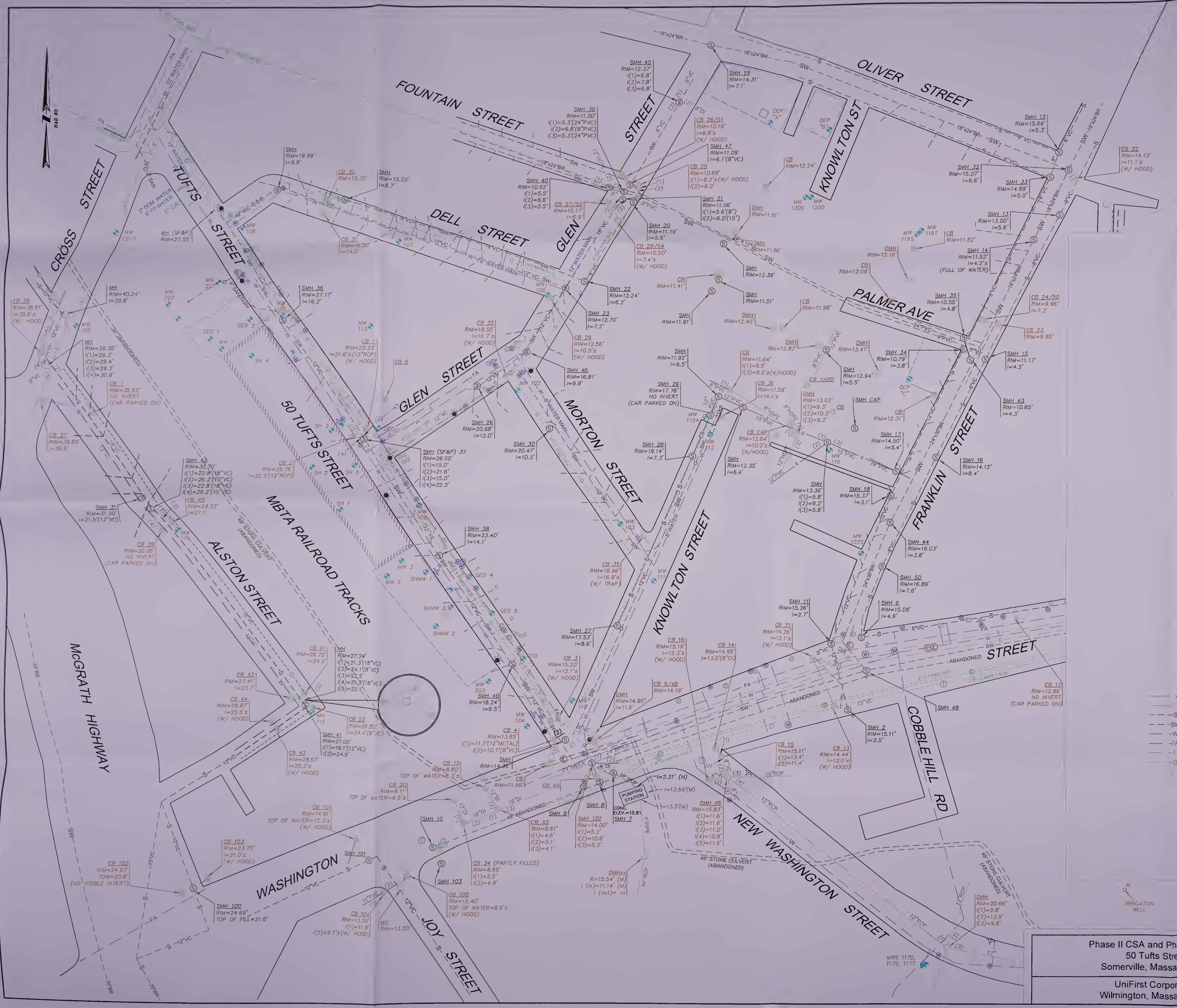

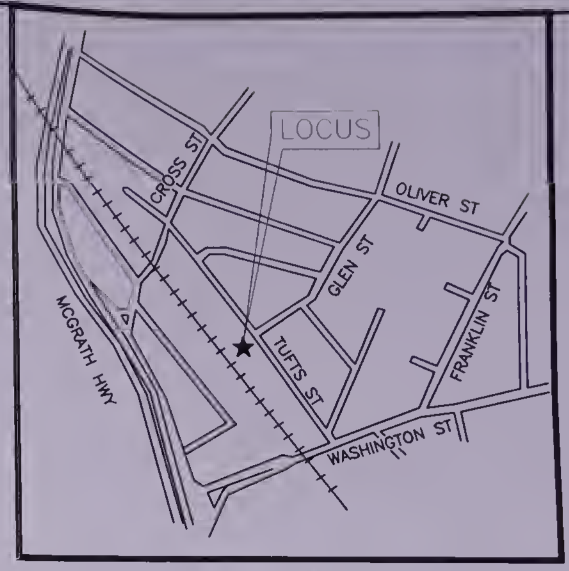

Locus Map
(NOT TO SCALE)

GENERAL NOTES

1. HORIZONTAL CONTROL FOR THIS PLAN WAS ESTABLISHED BY GPS AND IS BASED ON THE NORTH AMERICAN DATUM OF 1983.
2. VERTICAL CONTROL FOR THIS PLAN WAS ESTABLISHED BY GPS AND IS BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988.
3. STREET LINES AND BASE MAPPING RECEIVED VIA DIGITAL FILE FROM GEI ON MAY 26, 2006 AND WERE "BEST FIT" TO THE FIELD LOCATION OF THE BUILDING LOCATED AT #50 TUFTS STREET.
4. MONITORING WELL LOCATIONS AND ELEVATIONS WERE ESTABLISHED BY ON THE GROUND SURVEYS BY BSC GROUP, INC. ON MAY 31, 2006, MARCH 16-20, 2007, JULY 23, 2007, AUGUST 31, 2007, OCTOBER 31, 2007 AND FEBRUARY 4, 2008. PVC AND GROUND ELEVATIONS WERE ESTABLISHED BY TRIGONEMETRIC METHODS USING A TOTAL STATION.
5. ELEVATIONS ARE IN FEET, NORTH AMERICAN VERTICAL DATUM OF 1988 (FT, NAVD).
6. SURVEY LOCATIONS MARKED (M) ARE FROM MBTA MAP DATED 4/19/97.
7. HOUSE CONNECTION LOCATIONS APPROXIMATED FROM CITY OF SOMERVILLE FIELD NOTEBOOKS FROM LATE 1800s.

UTILITY NOTE

EXISTING UTILITIES, WHERE SHOWN HEREON, ARE APPROXIMATE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROPERLY LOCATING AND COORDINATING ANY ON-SITE ACTIVITY WITH DIG-SAFE AND THE APPROPRIATE UTILITY COMPANY AND MAINTAINING EXISTING UTILITY SYSTEM SERVICE. DIG-SAFE SHALL BE NOTIFIED PER THE COMMONWEALTH OF MASSACHUSETTS STATUTE CHAPTER 82, SECTION 40, AT 1-888-344-7233. NO GUARANTEE IS IMPLIED OR INTENDED AS TO THE ACCURACY, LOCATION OR THAT ALL UTILITIES AND/OR SUBSURFACE STRUCTURES ARE SHOWN. THE CONTRACTOR SHALL VERIFY SIZE, LOCATION AND INVERTS OR UTILITIES AND STRUCTURES AS REQUIRED PRIOR TO THE START OF CONSTRUCTION.

LEGEND

▨	CATCH BASIN
CONC.	CONCRETE
○	DRAIN MANHOLE
🄴	ELECTRIC HANDHOLE
Ⓔ	ELECTRIC MANHOLE
Ⓖ 🄶	GAS GATE
Ⓣ	TELECOMMUNICATIONS MANHOLE
⧄	MISC. GATE
⌖	HYDRANT
○	MANHOLE
◑	MONITORING WELL
Ⓢ	SEWER MANHOLE
●	UTILITY POLE
✸	UTILITY POLE W/LIGHT
Ⓦ 🅆	WATER GATE
🄵	FIRE ALARM BOX
—x—	CHAIN LINK FENCE
———	DRAIN LINE
— —S— —	SANITARY SEWER
— —SW— —	COMBINED SANITARY/STORM SEWER
—W—	WATER LINE
—FA—	FIRE ALARM LINE
—E—	ELECTRIC LINE
- - -G- - -	GAS LINE
MH	MANHOLE
DI	DUCTILE IRON
CB	CATCH BASIN
VC	VITREOUS CLAY
RCP	REINFORCED CONCRETE PIPE
BR	BRICK
SMH	SEWER MANHOLE
R	ELEVATION OF RIM (FT, NGVD)
I(#)	ELEVATION OF INVERT (FT, NGVD)
(M)	ELEVATION OBTAINED FROM MBTA PLAN DATED 4/19/07
(#)XXX	INVERT NUMBER/SIZE/MATERIAL

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SITE UTILITY PLAN

July 2008

Fig. 2-1

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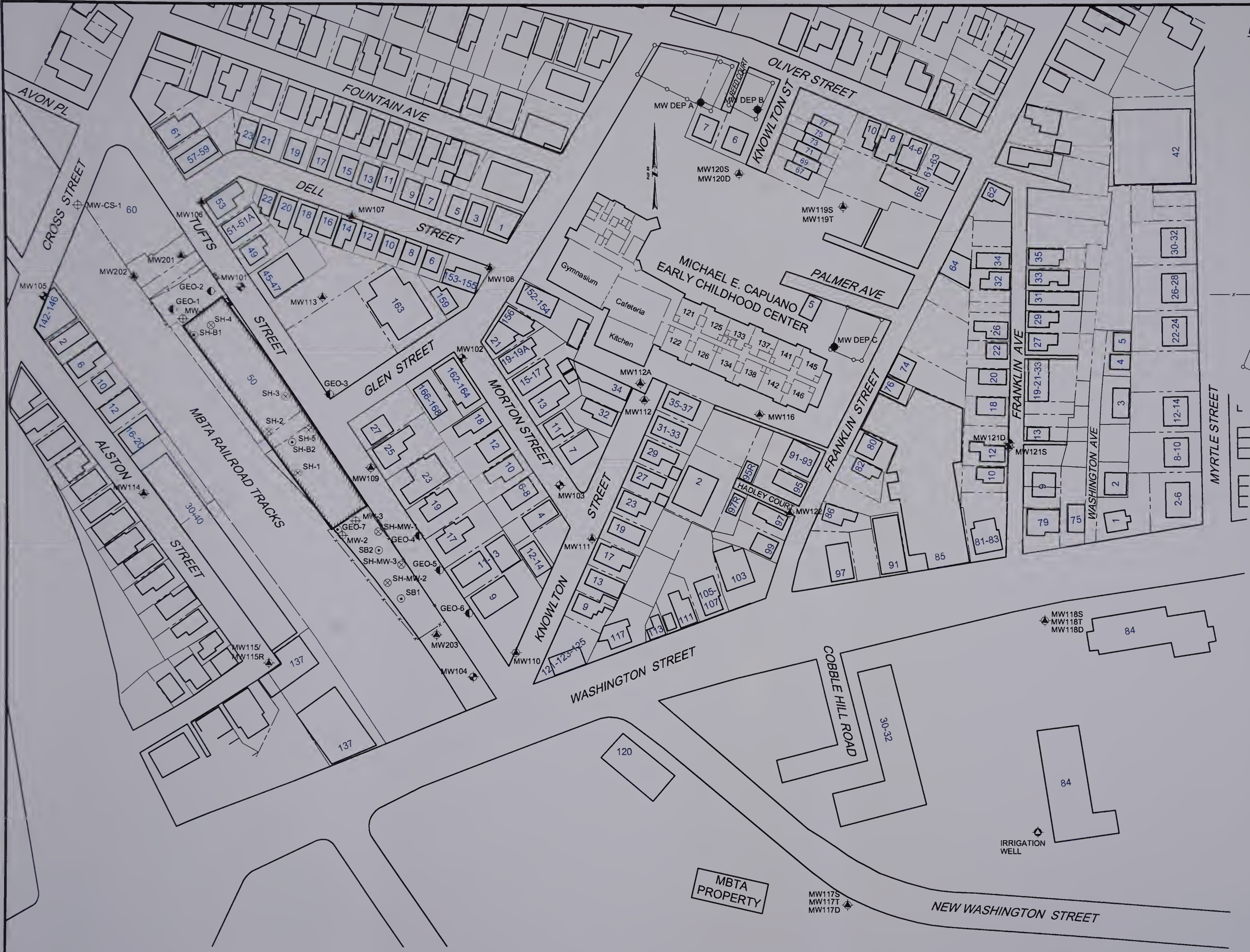

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—x—x—	CHAIN LINK FENCE
138	ROOM NUMBER AT CAPUANO SCHOOL
▱	BOUNDARY OF COMMUNITY GARDENS
84	STREET ADDRESS

MBTA = MASSACHUSETTS BAY TRANSPORTATION AUTHORITY

GENERAL NOTES:

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4. GEI OBSERVED ABANDONMENT OF SH-MW1 AND SH-1 THROUGH SH-5 IN 2007.

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MONITORING WELL AND BORING LOCATIONS

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Fig. 4-1

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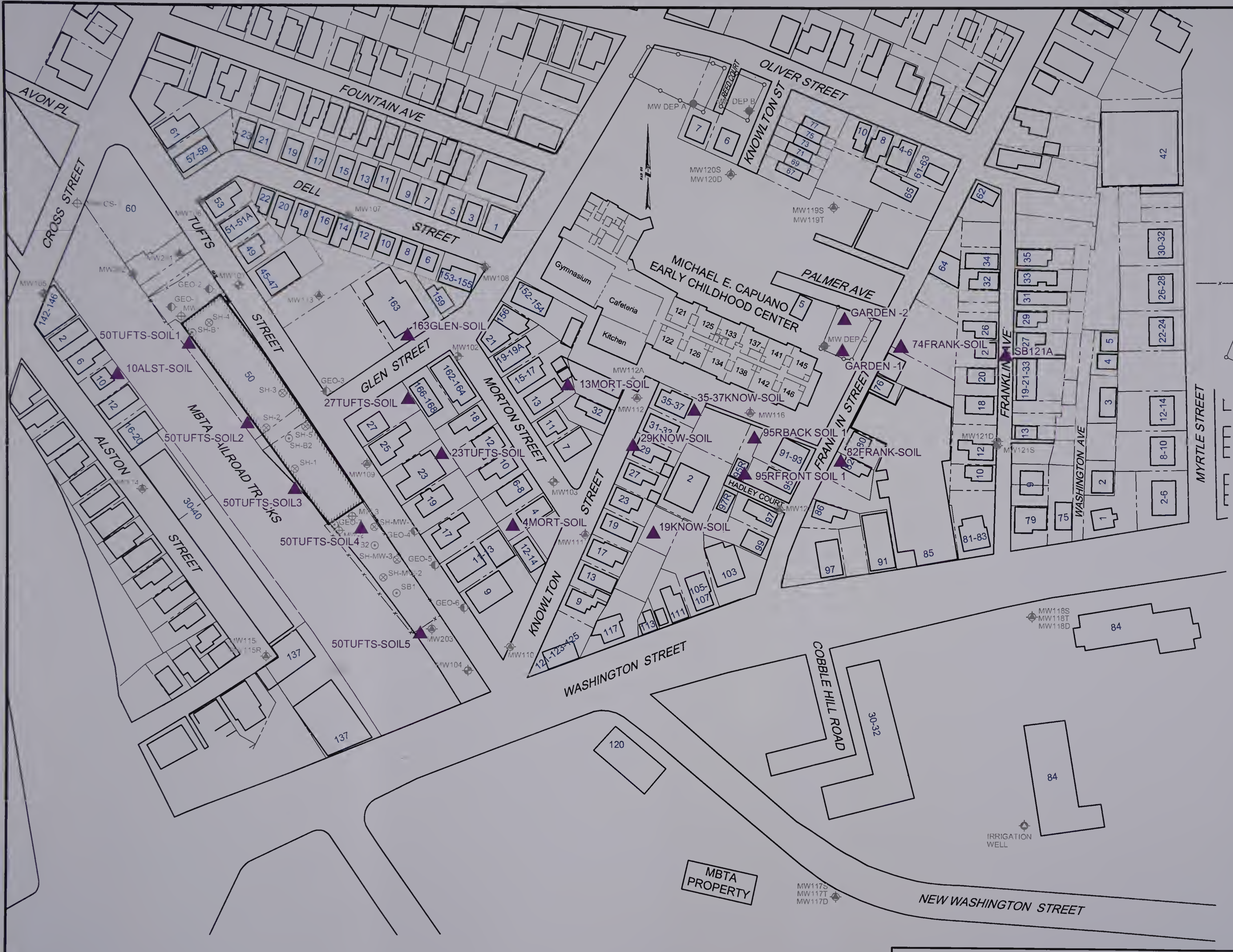

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- ▲ APPROXIMATE SHALLOW SOIL SAMPLING LOCATION

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4. GEI OBSERVED ABANDONMENT OF SH-MW1 AND SH-1 THROUGH SH-5 IN 2007.
5. SHALLOW SOIL SAMPLING LOCATIONS ARE SHOWN BASED ON RELATIVE LOCATIONS OF KNOWN SITE FEATURES.

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SHALLOW SOIL
SAMPLING LOCATIONS

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July 2008
Fig. 4-2

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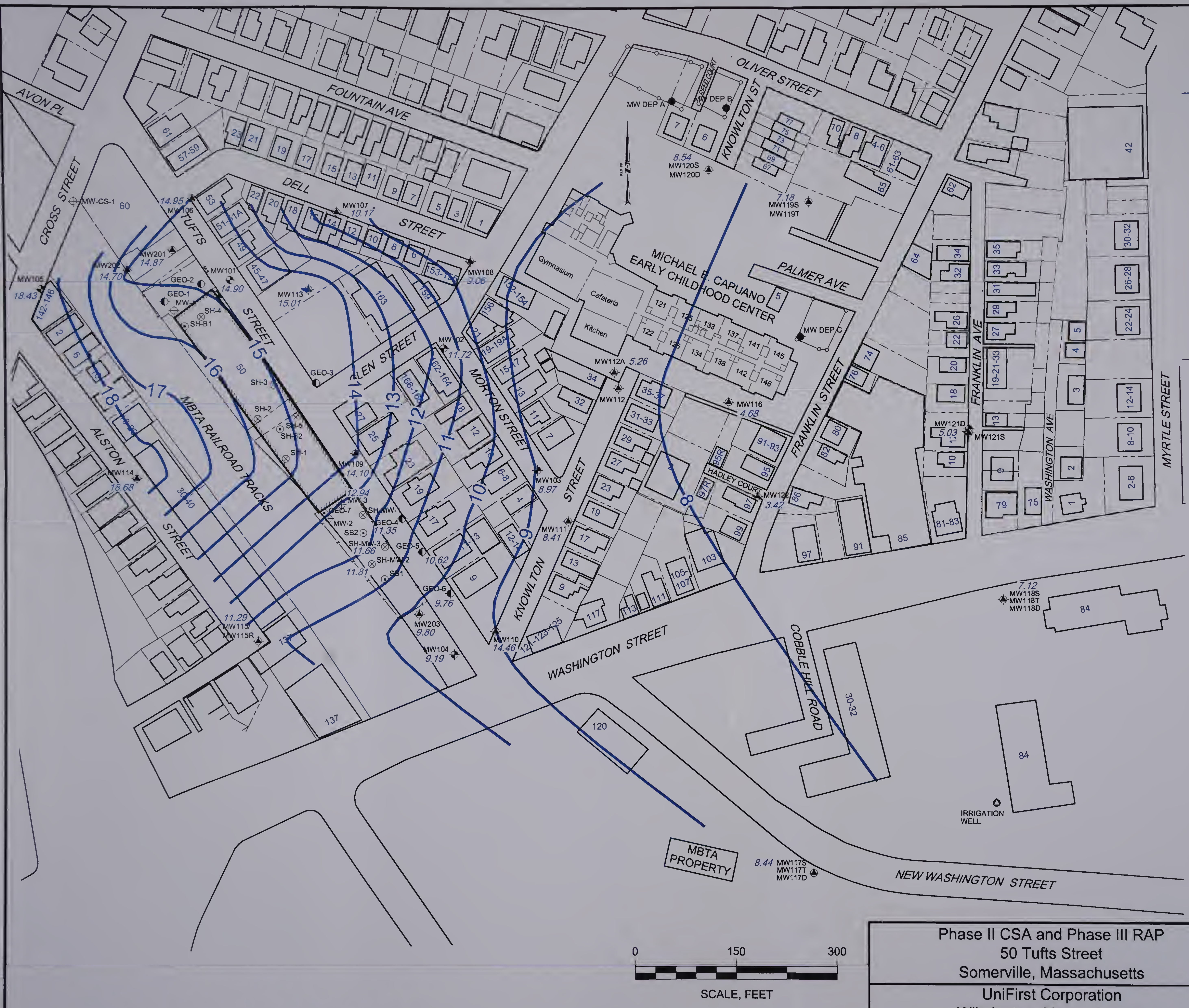

LEGEND:

10.16 GROUNDWATER ELEVATION MEASURED ON MARCH 18 , 2008

– 14 – GROUNDWATER ELEVATION CONTOUR, FEET (NAVD 1988)

MONITORING WELL WITH SOIL VAPOR SAMPLE PORT INSTALLED BY GEI, JANUARY 2007 - JANUARY 2008

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PREVIOUSLY INSTALLED IRRIGATION WELL

—x—x— CHAIN LINK FENCE

138 ROOM NUMBER AT CAPUANO SCHOOL

BOUNDARY OF COMMUNITY GARDENS

84 STREET ADDRESS

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5. GEI OBSERVED ABANDONMENT OF SH-MW1 AND SH-1 THROUGH SH-5 IN 2007.
6. SHALLOW GROUNDWATER MEASUREMENTS ASSOCIATED WITH MONITORING WELLS MW110, MW112A, MW116, MW121S, AND MW122 WERE NOT USED TO GENERATE CONTOURS DUE TO APPARENT LOCALIZED EFFECTS OF SUBSURFACE UTILITIES ON GROUNDWATER ELEVATIONS AT THESE LOCATIONS.

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SHALLOW OVERBURDEN
GROUNDWATER
CONTOUR PLAN
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Fig. 4-3

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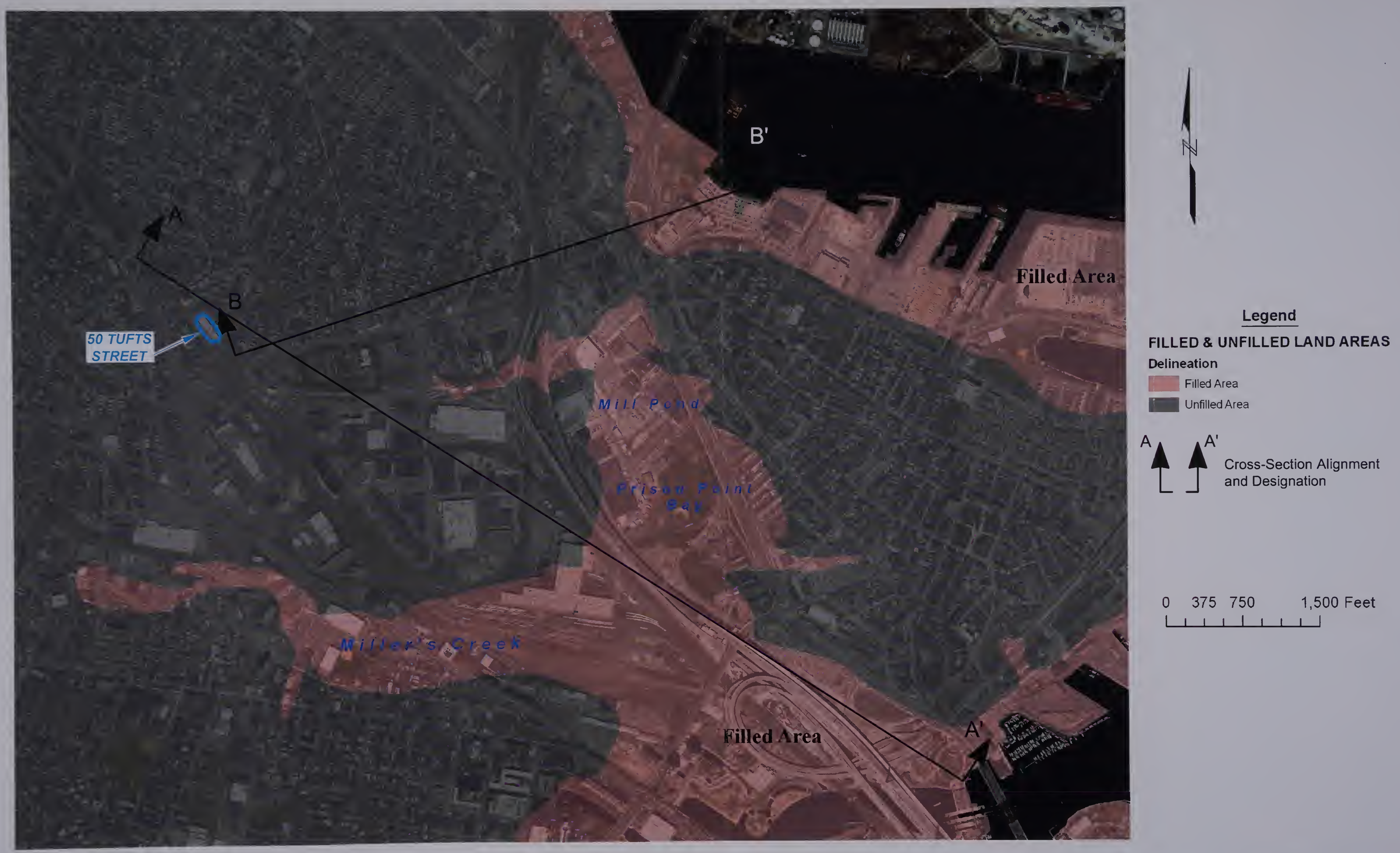
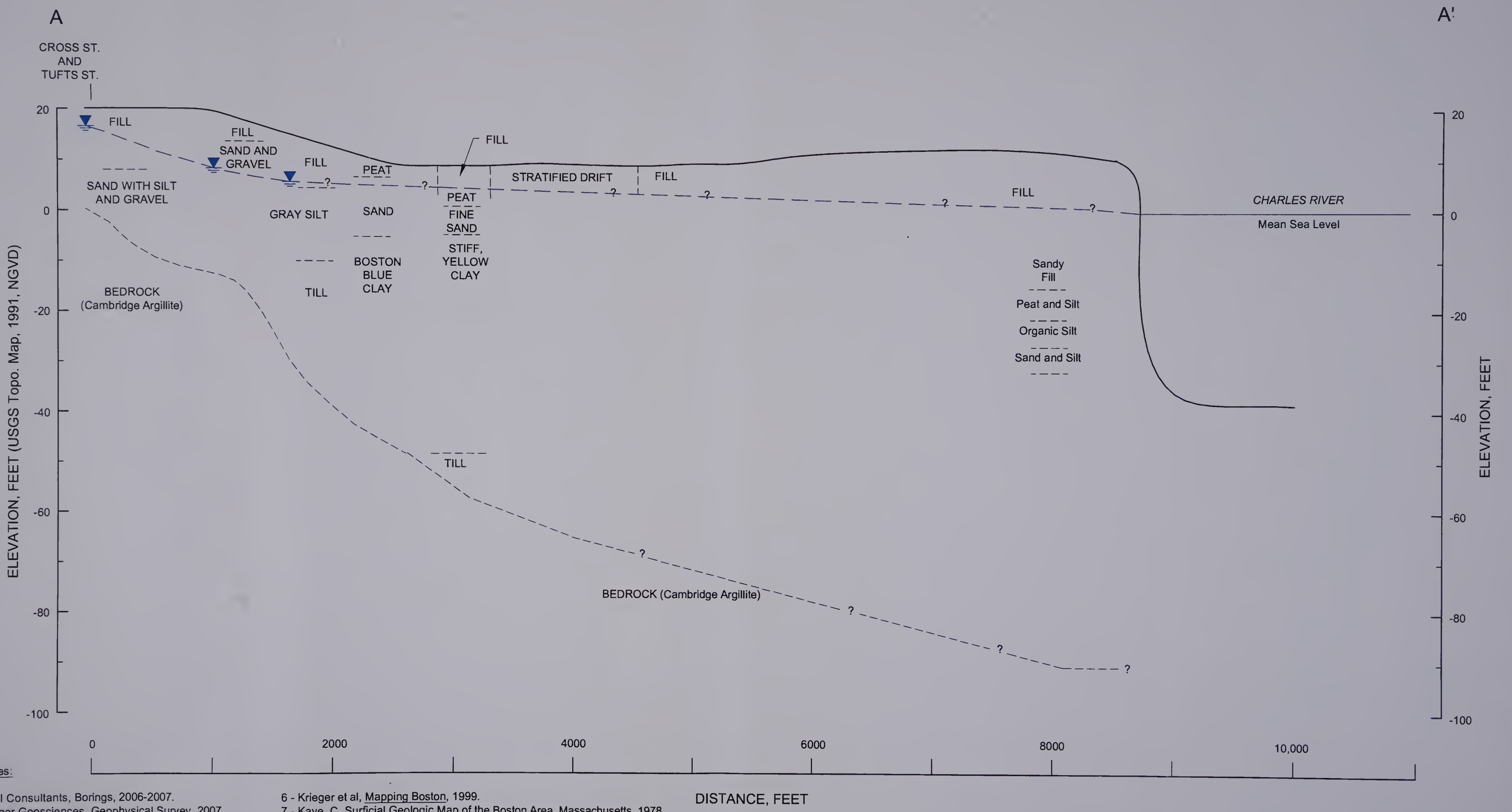


Sources:

1:5,000 - Color Ortho-Imagery, MassGIS, 2005.
Seasholes, N. Gaining Ground, 2003.
Krieger, et. al. Mapping Boston, 1999.
Boston Harbor, Massachusetts from a Trigonometrical Survey, 1857, Survey of the Coast of the United States, 1:40,000.
Boston Inner Harbor, Marine Chart No. 13272, 49th Edition, October 2004, National Oceanic and Atmospheric Administration, 1:10,000.

Phase II CSA and Phase III RAP 50 Tufts Street Somerville, Massachusetts	GEI Consultants	AERIAL PHOTO WITH REGIONAL FILL AREAS AND CROSS-SECTION LOCATIONS
UniFirst Corporation Wilmington, Massachusetts	Project 04516-2	July 2008 Fig. 4-4

N:\04516\#Drafting\045160-2\Phase II CSA Phase III RAP\045162-08



Sources:

1 - GEI Consultants, Borings, 2006-2007.
2 - Hager Geosciences, Geophysical Survey, 2007.
3 - Journals of the Boston Society of Civil Engineers, 1961.
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6 - Krieger et al, Mapping Boston, 1999.
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8 - U.S.G.S. Topographic Map, 1991.
9 - Kaye, C., Bedrock Geology, Boston North, Boston South and Newton Quads, Mass, 1980.
10 - Boston Inner Harbor, Marine Chart No. 13272, 49th Edition, October 2004, National Oceanic and Atmospheric Administration, 1:10,000.

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GENERALIZED REGIONAL
CROSS-SECTION
A-A'

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Fig. 4-5

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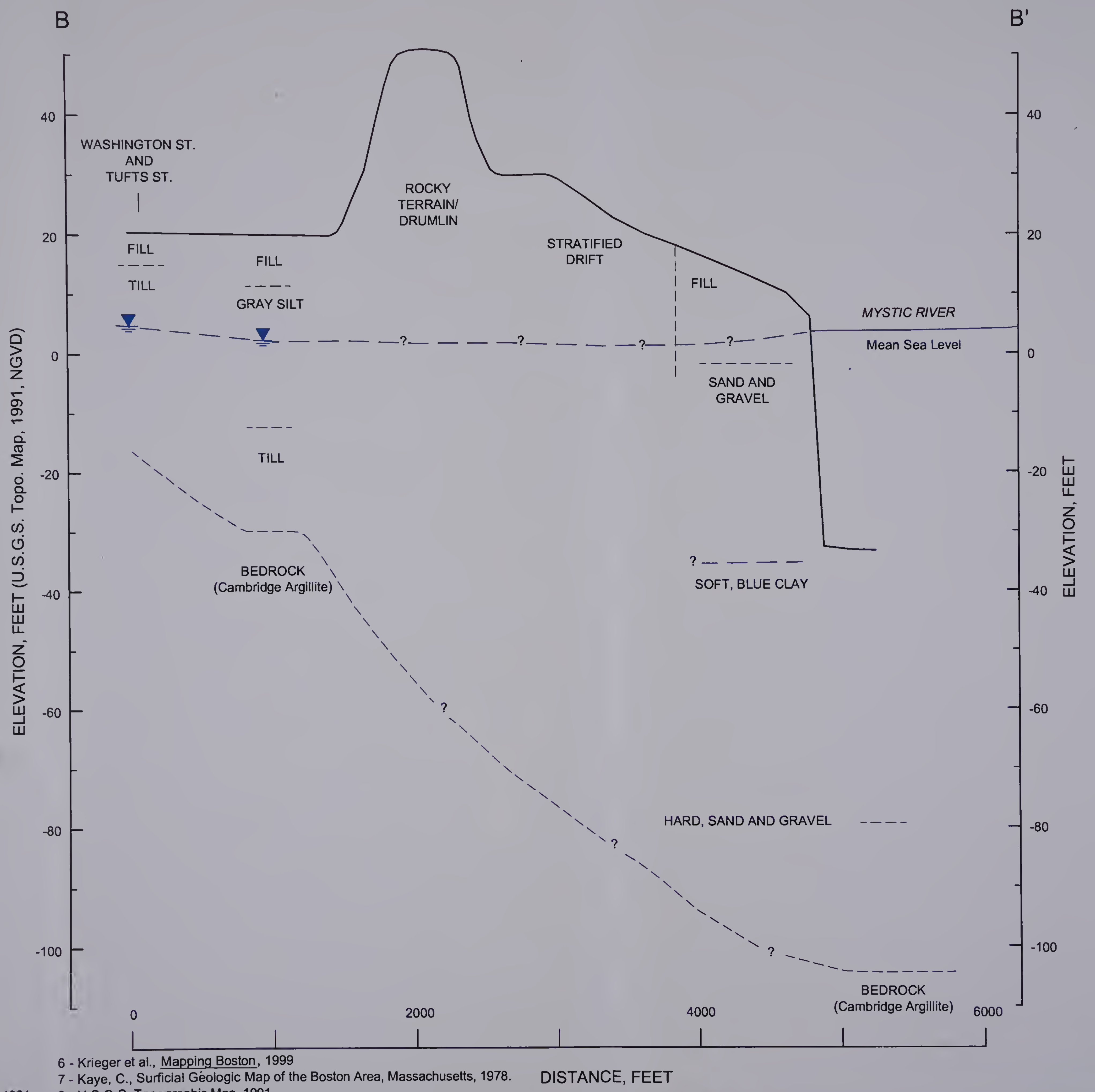

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GENERALIZED REGIONAL CROSS-SECTION B-B'

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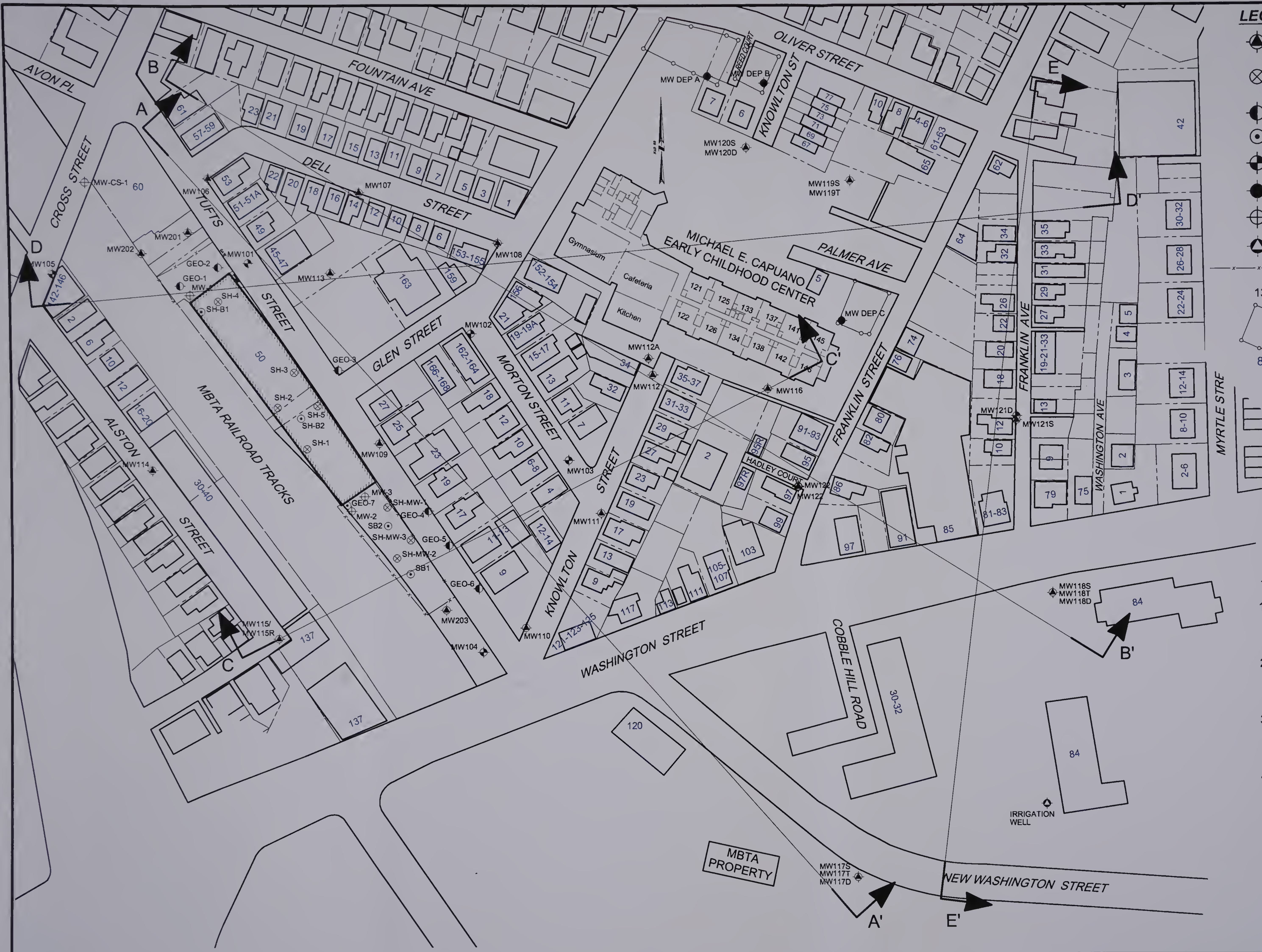

0 150 300
SCALE, FEET

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- △ PREVIOUSLY INSTALLED IRRIGATION WELL
- —x—x— CHAIN LINK FENCE
- 138 ROOM NUMBER AT CAPUANO SCHOOL
- ◇ BOUNDARY OF COMMUNITY GARDENS
- 84 STREET ADDRESS
- A A' CROSS-SECTION ALIGNMENT AND DESIGNATION
- MBTA = MASSACHUSETTS BAY TRANSPORTATION AUTHORITY

GENERAL NOTES:

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CROSS-SECTION
LOCATION PLAN

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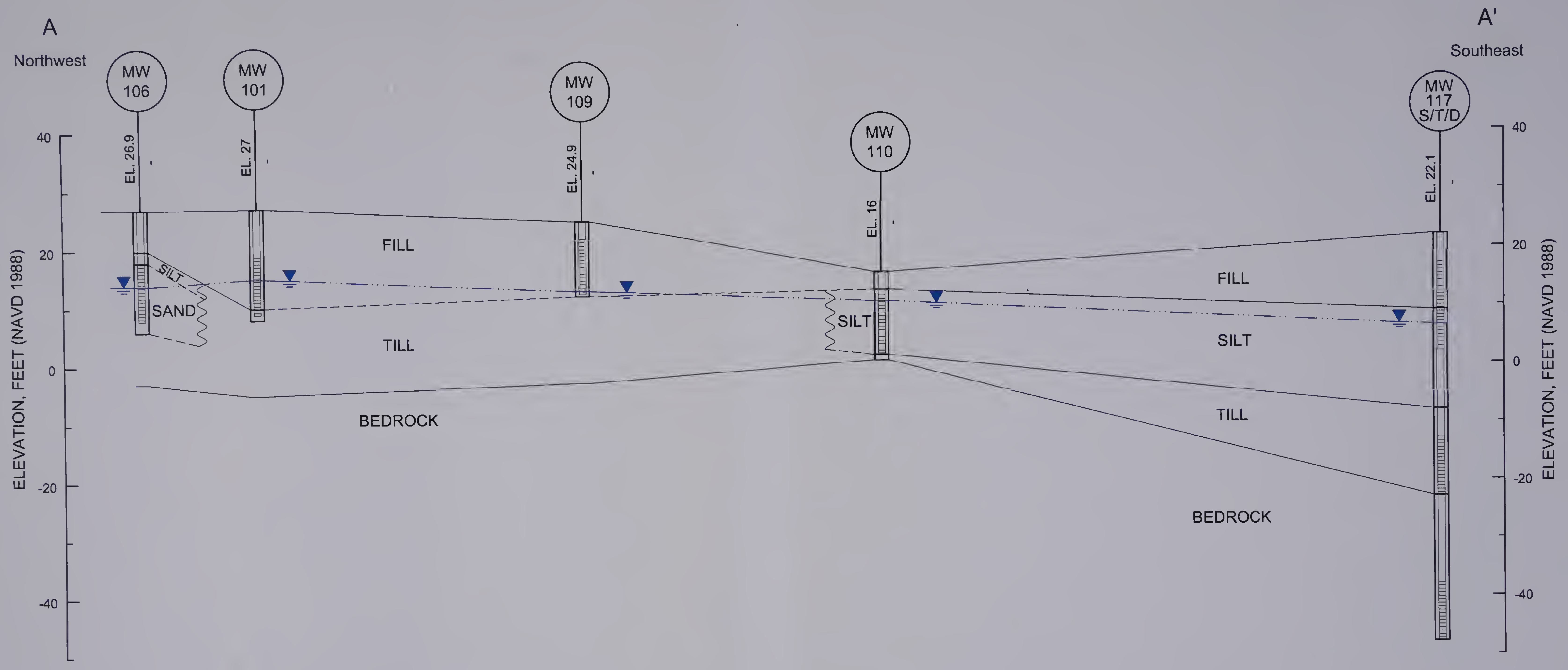
Fig. 4-7

N:\04516\#Drafting\045160-2\Phase II CSA Phase III RAP\045162-10



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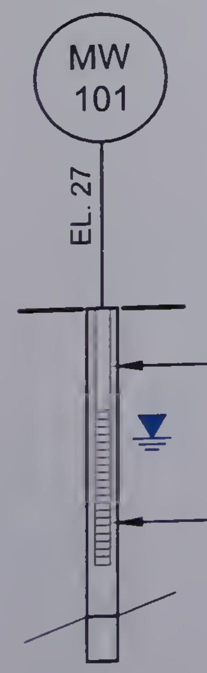


BORING NUMBER

ELEVATION OF GROUND SURFACE

EXISTING GROUND SURFACE

2-IN. DIAMETER PVC RISER PIPE

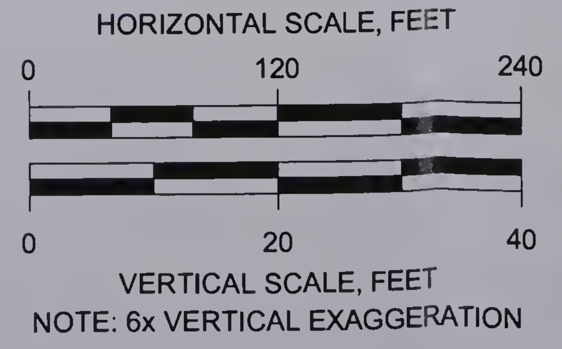
SHALLOW GROUNDWATER LEVEL MEASURED IN GROUNDWATER MONITORING WELL

SCREENED SECTION OF GROUNDWATER MONITORING WELL

STRATUM BOUNDARY

NOTE:

1. REFER TO FIG. 4-7 FOR CROSS-SECTION LOCATIONS.
2. BEDROCK AND SELECTED TILL ELEVATIONS BASED ON GPR SURVEY CONDUCTED BY HAGER GEOSCIENCE, INC., NOVEMBER 2007.
3. BORING LOGS IN APPENDIX F.



NOTE: 6x VERTICAL EXAGGERATION

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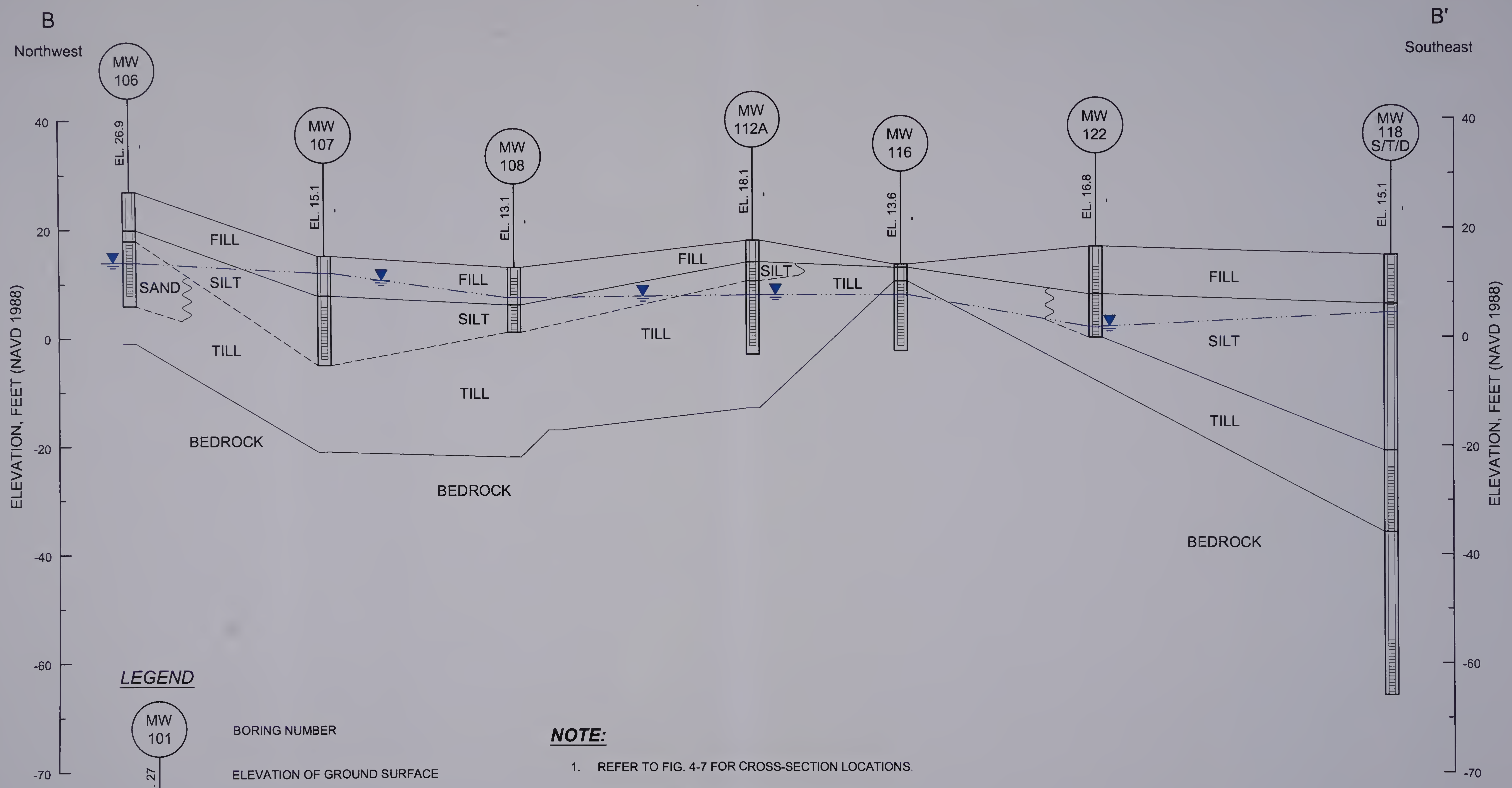
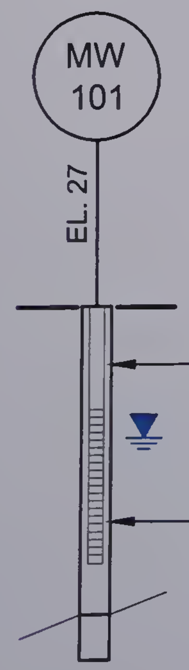
CROSS-SECTION
A-A'

Project 04516-2 | July 2008 | Fig. 4-8

N:\04516\#Drafting\045160-2\Phase II CSA Phase III RAP\045162-11



LEGEND



BORING NUMBER

ELEVATION OF GROUND SURFACE

EXISTING GROUND SURFACE

2-IN. DIAMETER PVC RISER PIPE

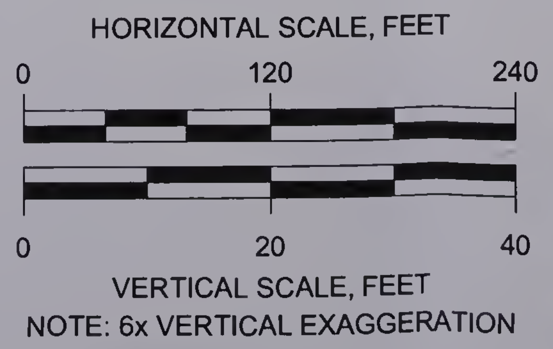
SHALLOW GROUNDWATER LEVEL MEASURED IN GROUNDWATER MONITORING WELL

SCREENED SECTION OF GROUNDWATER MONITORING WELL

STRATUM BOUNDARY

NOTE:

1. REFER TO FIG. 4-7 FOR CROSS-SECTION LOCATIONS.
2. BEDROCK AND SELECTED TILL ELEVATIONS BASED ON GPR SURVEY CONDUCTED BY HAGER GEOSCIENCE, INC., NOVEMBER 2007.
3. BORING LOGS IN APPENDIX F.



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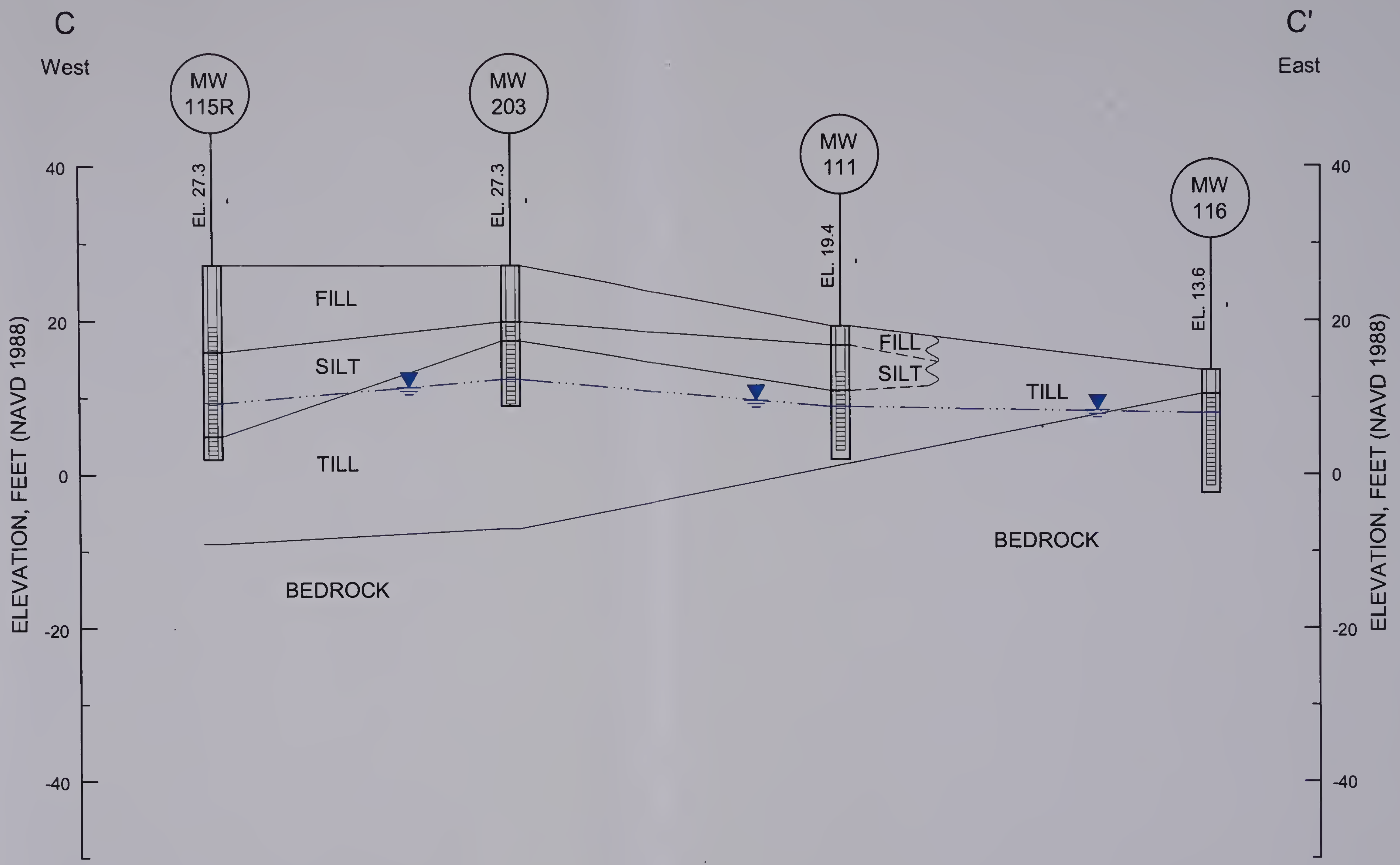
CROSS-SECTION
B-B'

Project 04516-2 | July 2008 | Fig. 4-9

N:\04516\#Drafting\045160-2\Phase II CSA Phase III RAP\045162-11



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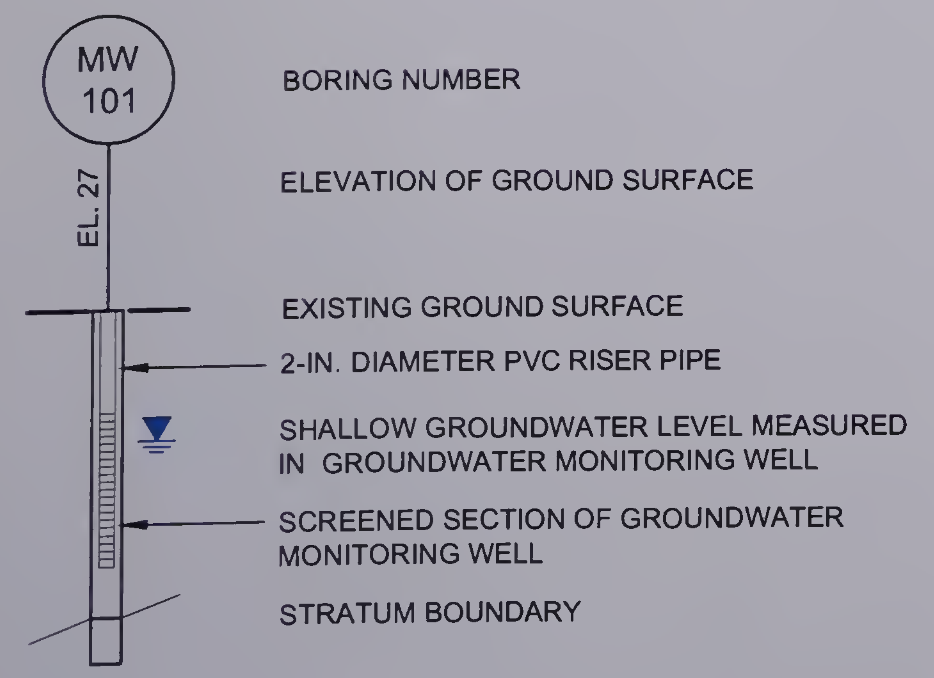
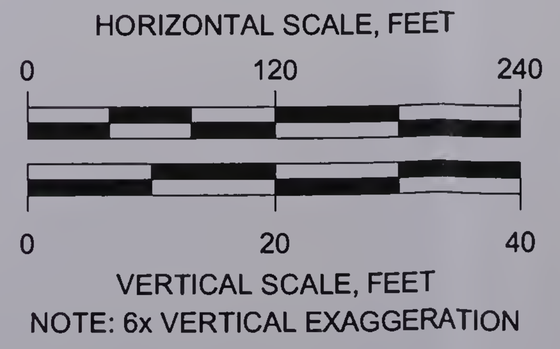

MW 101
BORING NUMBER
EL. 27
ELEVATION OF GROUND SURFACE
EXISTING GROUND SURFACE
2-IN. DIAMETER PVC RISER PIPE
SHALLOW GROUNDWATER LEVEL MEASURED IN GROUNDWATER MONITORING WELL
SCREENED SECTION OF GROUNDWATER MONITORING WELL
STRATUM BOUNDARY

NOTE:

1. REFER TO FIG. 4-7 FOR CROSS-SECTION LOCATIONS.
2. BEDROCK AND SELECTED TILL ELEVATIONS BASED ON GPR SURVEY CONDUCTED BY HAGER GEOSCIENCE, INC., NOVEMBER 2007.
3. BORING LOGS IN APPENDIX F.



NOTE: 6x VERTICAL EXAGGERATION

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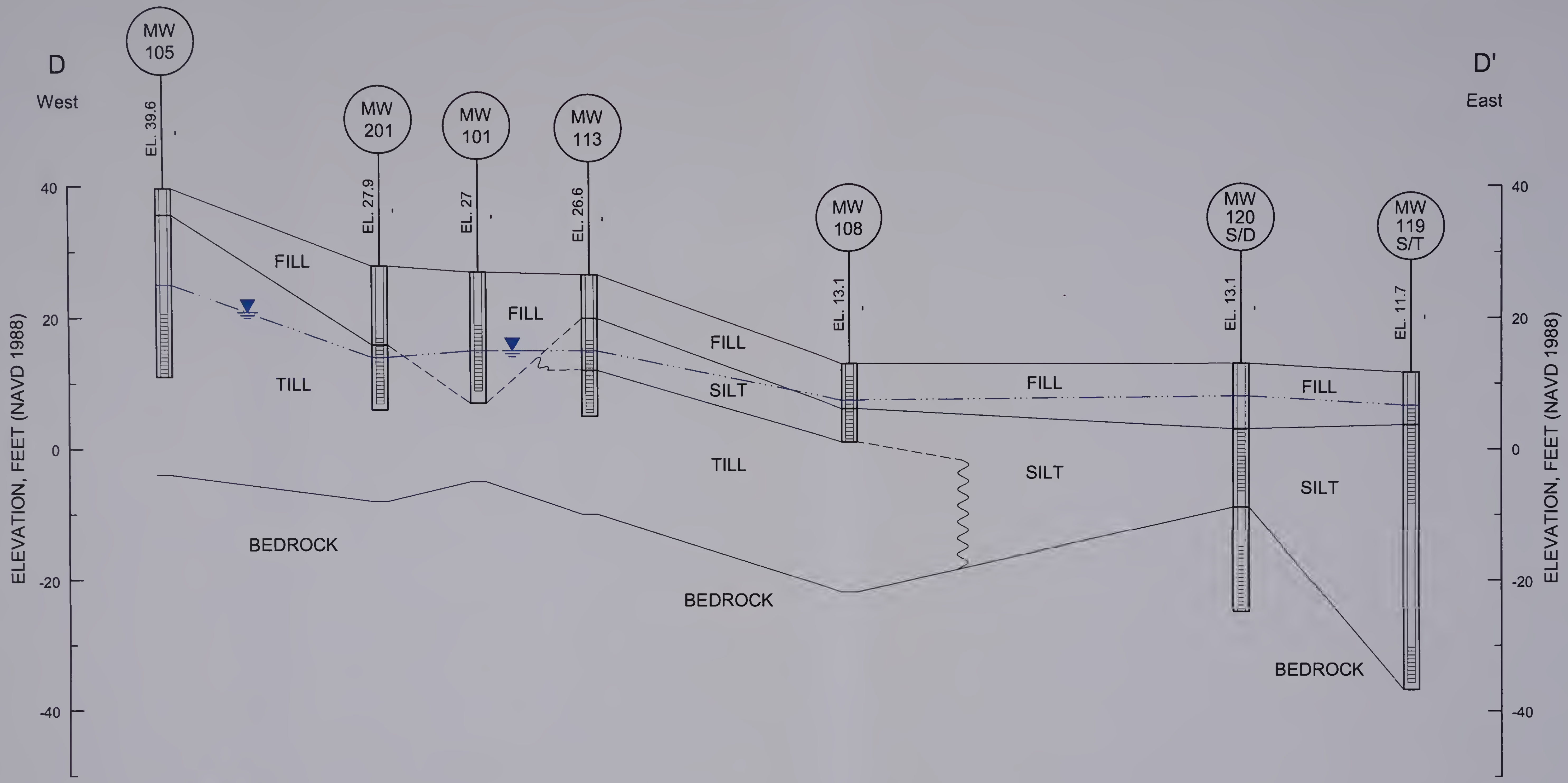
CROSS-SECTION
C-C'

Project 04516-2 | July 2008 | Fig. 4-10

N:\04516\#Drafting\045160-2\Phase II CSA Phase III RAP\045162-11



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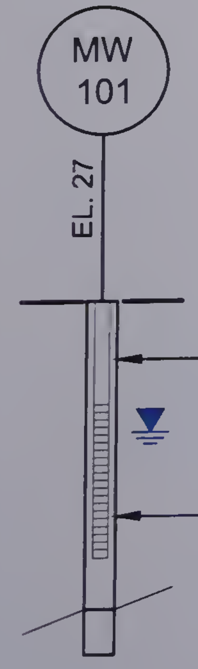


BORING NUMBER

ELEVATION OF GROUND SURFACE

EXISTING GROUND SURFACE

2-IN. DIAMETER PVC RISER PIPE

SHALLOW GROUNDWATER LEVEL MEASURED IN GROUNDWATER MONITORING WELL

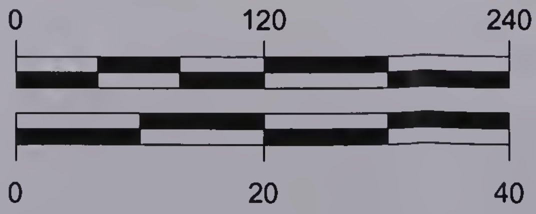
SCREENED SECTION OF GROUNDWATER MONITORING WELL

STRATUM BOUNDARY

NOTE:

1. REFER TO FIG. 4-7 FOR CROSS-SECTION LOCATIONS.
2. BEDROCK AND SELECTED TILL ELEVATIONS BASED ON GPR SURVEY CONDUCTED BY HAGER GEOSCIENCE, INC., NOVEMBER 2007.
3. BORING LOGS IN APPENDIX F.

HORIZONTAL SCALE, FEET



VERTICAL SCALE, FEET
NOTE: 6x VERTICAL EXAGGERATION

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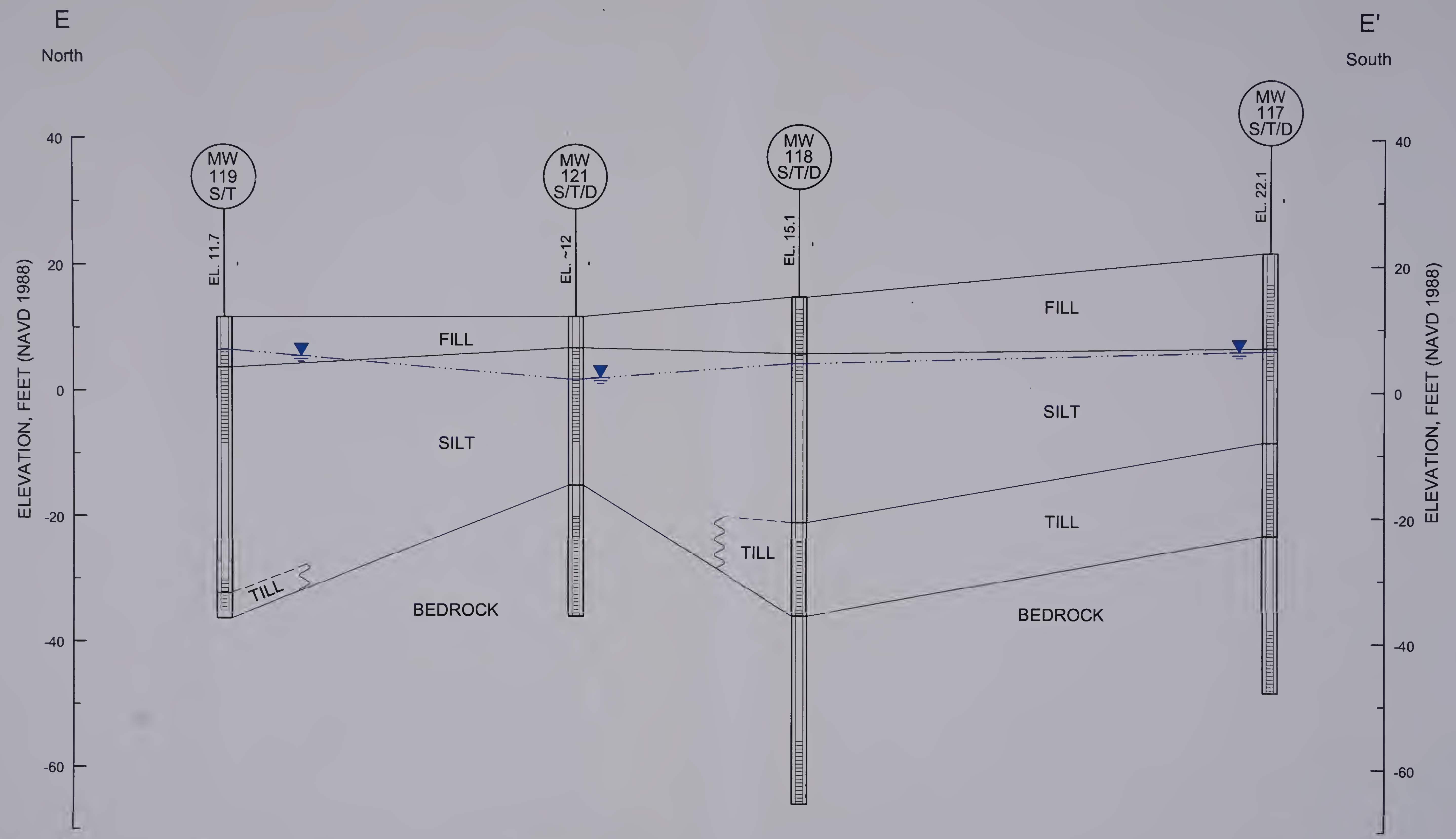
CROSS-SECTION
D-D'

Project 04516-2 | July 2008 | Fig. 4-11

N:\04516\#Drafting\045160-2\Phase II CSA Phase III RAP\045162-11



LEGEND

MW 101 — BORING NUMBER

EL. 27 — ELEVATION OF GROUND SURFACE

EXISTING GROUND SURFACE

2-IN. DIAMETER PVC RISER PIPE

▼ SHALLOW GROUNDWATER LEVEL MEASURED IN GROUNDWATER MONITORING WELL

SCREENED SECTION OF GROUNDWATER MONITORING WELL

STRATUM BOUNDARY

NOTE:

1. REFER TO FIG. 4-7 FOR CROSS-SECTION LOCATIONS.
2. BEDROCK AND SELECTED TILL ELEVATIONS BASED ON GPR SURVEY CONDUCTED BY HAGER GEOSCIENCE, INC., NOVEMBER 2007.
3. BORING LOGS IN APPENDIX F.

HORIZONTAL SCALE, FEET
0 120 240

0 20 40
VERTICAL SCALE, FEET
NOTE: 6x VERTICAL EXAGGERATION

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CROSS-SECTION
E-E'

Project 04516-2 | July 2008 | Fig. 4-12

N:\04516\#Drafting\045160-2\Phase II CSA Phase III RAP\045162-11

MW201	11-13 FT.	15-17 FT
PCE	0.178	0.058J
TCE	0.0344J	<0.089

SH-4	8 - 12 FT
PCE	4.8
TCE	1.4

MW202	13-15 FT.	17-18 FT
PCE	< 0.096	< 0.085
TCE	< 0.096	< 0.085

GEO-1	0 - 2 FT.	6 - 8 FT
PCE	2.45	8.07
TCE	0.164	1.12

MW105	2 - 3 FT.	23 - 25 FT
PCE	< 0.15	< 0.083
TCE	< 0.15	< 0.083

SH-B1	8 - 12 FT
PCE	7.8
TCE	4.4

SH-3	3 - 4 FT
PCE	140
TCE	< 0.64

SH-2	4 - 5 FT
PCE	1,800
TCE	2.0

MW114	2 - 4 FT	11- 13 FT	19 - 20 FT
PCE	< 0.11	< 0.09	< 0.084
TCE	< 0.11	< 0.09	< 0.085

SH-5	4 - 8 FT
PCE	61
TCE	< 0.660

SH-1	12 - 14 FT
PCE	1,500
TCE	< 0.55

MW109	3 FT	7 - 9 FT	13 - 14 FT
PCE	0.324	< 0.088	0.242
TCE	< 0.1	< 0.088	< 0.075

SH-MW-1	10 - 12 FT
PCE	0.01
TCE	< 0.00074

MW115	2 - 4 FT	18 - 20 FT
PCE	< 0.13	< 0.089
TCE	< 0.13	< 0.089

MW115R	19 - 20 FT
PCE	< 0.13
TCE	< 0.13

MW101	2 - 3 FT	13.5 - 15.5 FT	15.5 - 17.5 FT	17.5 - 19.5 FT
PCE	0.989	0.0649J	0.054J	0.0699J
TCE	0.358	< 0.1	< 0.1	< 0.093

MW106	3 FT	12 - 14 FT	16 - 18 FT
PCE	< 0.11	< 0.087	< 0.083
TCE	< 0.11	< 0.087	< 0.083

MW113	2 - 4 FT	11 - 13 FT	19 - 21 FT
PCE	< 0.11	< 0.12	< 0.08
TCE	< 0.11	< 0.12	< 0.08

MW107	3 FT	7 - 9 FT	20 - 21 FT
PCE	< 0.099	< 0.12	<0.069
TCE	< 0.099	< 0.12	< 0.069

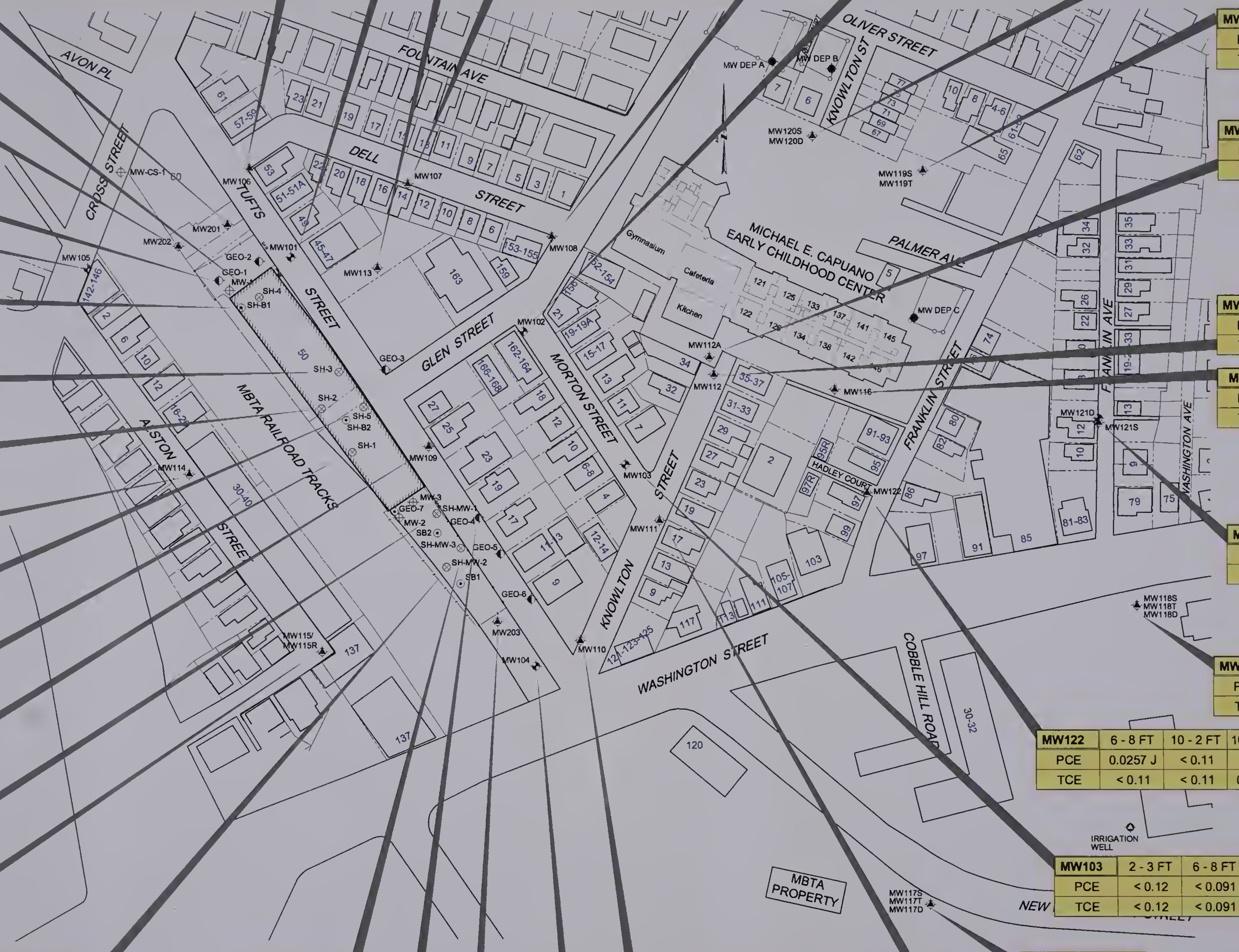
MW108	3 FT	7 - 8 FT
PCE	< 0.084	<0.11
TCE	< 0.084	< 0.11

MW102	2 - 3 FT	12.5 - 14.6 FT
PCE	< 0.12	0.164
TCE	< 0.12	< 0.083

MW120D	4-6 FT	14-16 FT
PCE	< 0.100	<0.120
TCE	< 0.100	< 0.120

MW119T	6-8 FT	14-16 FT
PCE	< 0.086	<0.120
TCE	< 0.086	< 0.120

MW112A	0 - 3 FT	10 - 12 FT	17 - 19 FT
PCE	< 0.130	0.0471 J	1.04
TCE	< 0.130	< 0.081	0.138



MW112	3 FT	6 - 7 FT
PCE	< 0.11	<0.11
TCE	< 0.11	< 0.11

MW116	0 - 3 FT
PCE	< 0.130
TCE	< 0.130

MW121D	1 - 3 FT	3 - 6 FT	11 - 13 FT
PCE	< 0.11	< 0.13	< 0.13
TCE	< 0.11	< 0.13	< 0.13

MW118D	10-12 FT
PCE	0.233
TCE	< 0.120

MW122	6 - 8 FT	10 - 2 FT	16 - 18 FT
PCE	0.0257 J	< 0.11	1.31
TCE	< 0.11	< 0.11	0.0925 J

MW103	2 - 3 FT	6 - 8 FT	14 - 16 FT
PCE	< 0.12	< 0.091	0.722
TCE	< 0.12	< 0.091	< 0.082

MW117D	8 - 10 FT
PCE	< 0.100
TCE	< 0.100

MW111	3 FT	7 - 9 FT	13 - 15 FT
PCE	< 0.087	< 0.1	3.15
TCE	< 0.087	< 0.1	0.0469J

MW110	3 FT	7 - 9 FT	13 - 14 FT
PCE	< 0.1	< 0.11	< 0.092
TCE	< 0.1	< 0.11	< 0.092

MW104	0 - 5 FT	5 - 10 FT	10 - 15 FT
PCE	0.949	4.25	0.564
TCE	< 0.13	0.093	0.593
DCE, CIS,1,2-	< 0.13	< 0.092	1.44

SH-MW-2	15 - 17 FT
PCE	23
TCE	0.32

SH-MW-3	15 - 17 FT
PCE	0.16
TCE	0.0062

GEO-4	11 - 13 FT
PCE	0.111
TCE	< 0.0556

MW203	8-10 FT	13-15 FT
PCE	0.0727J	0.125
TCE	< 0.110	<0.081

LEGEND:

◈	MONITORING WELL WITH SOIL GAS SAMPLE PORT INSTALLED BY GEI, JANUARY 2007 - JANUARY 2008
⊗	MONITORING WELL INSTALLED BY SANBORN HEAD ASSOCIATES, 2002
◐	MONITORING WELL INSTALLED BY GEOINSIGHT, JUNE 2004
⊙	SOIL BORING ADVANCED BY GEOINSIGHT, AUGUST 2004
⊕	MONITORING WELL INSTALLED BY GEI, MAY 2006 - OCTOBER 2007
●	DRIVEN POINT MONITORING WELL INSTALLED BY MADEP, MAY 2007
⊕	MONITORING WELL INSTALLED PREVIOUSLY, DATE UNKNOWN
—·—·—	CHAIN LINK FENCE
138	ROOM NUMBER AT CAPUANO SCHOOL
84	STREET ADDRESS
	MBTA = MASSACHUSETTS BAY TRANSPORTATION AUTHORITY

LABORATORY DATA TABLE NOTES

1. CONCENTRATIONS ARE REPORTED IN MILLIGRAMS PER KILOGRAM.
2. CONCENTRATIONS OF PCE AND TCE ARE SHOWN FOR EACH LOCATION.
3. MCP = MASSACHUSETTS CONTINGENCY PLAN 310 CMR 40.0000 WITH REVISIONS DATED DECEMBER 14, 2007.
4. PCE = TETRACHLOROETHYLENE
5. TCE = TRICHLOROETYLHENE
6. DCE,CIS,1,2 = DICHLOROETHYLENE, CIS,1,2
7. J = THE REPORTED RESULT IS BELOW THE LABORATORY REPORTING LIMIT AND IS ESTIMATED.
8. < = THE ANALYTE WAS NOT DETECTED AT A CONCENTRATION ABOVE THE LABORATORY REPORTING LIMIT.

GENERAL NOTES

1. HORIZONTAL CONTROL FOR THIS PLAN WAS ESTABLISHED BY GPS AND IS BASED ON THE NORTH AMERICAN DATUM OF 1983.
2. STREET AND PROPERTY LINES BASED ON SOMERVILLE ASSESSORS' MAPS AND ARE BEST FIT RELATIVE TO THE LOCATION OF THE 50 TUFTS ST. BUILDING.
3. CAPUANO CENTER BUILDING IS BASED ON DRAWING A0.2 FROM THE ARCHITECTURAL BID SET OF "THE EDGERTY EARLY CHILDHOOD DEVELOPMENT CENTER" BY HMFH ARCHITECTS, INC., DATED AUGUST 10, 2001.
4. MONITORING WELL LOCATIONS AND ELEVATIONS, AND CAPUANO CENTER COMMUNITY GARDEN LOCATIONS WERE ESTABLISHED BY ON THE GROUND SURVEYS BY BSC GROUP, INC.
5. REFER TO THE TEXT OF THIS REPORT FOR SAMPLING DATES.

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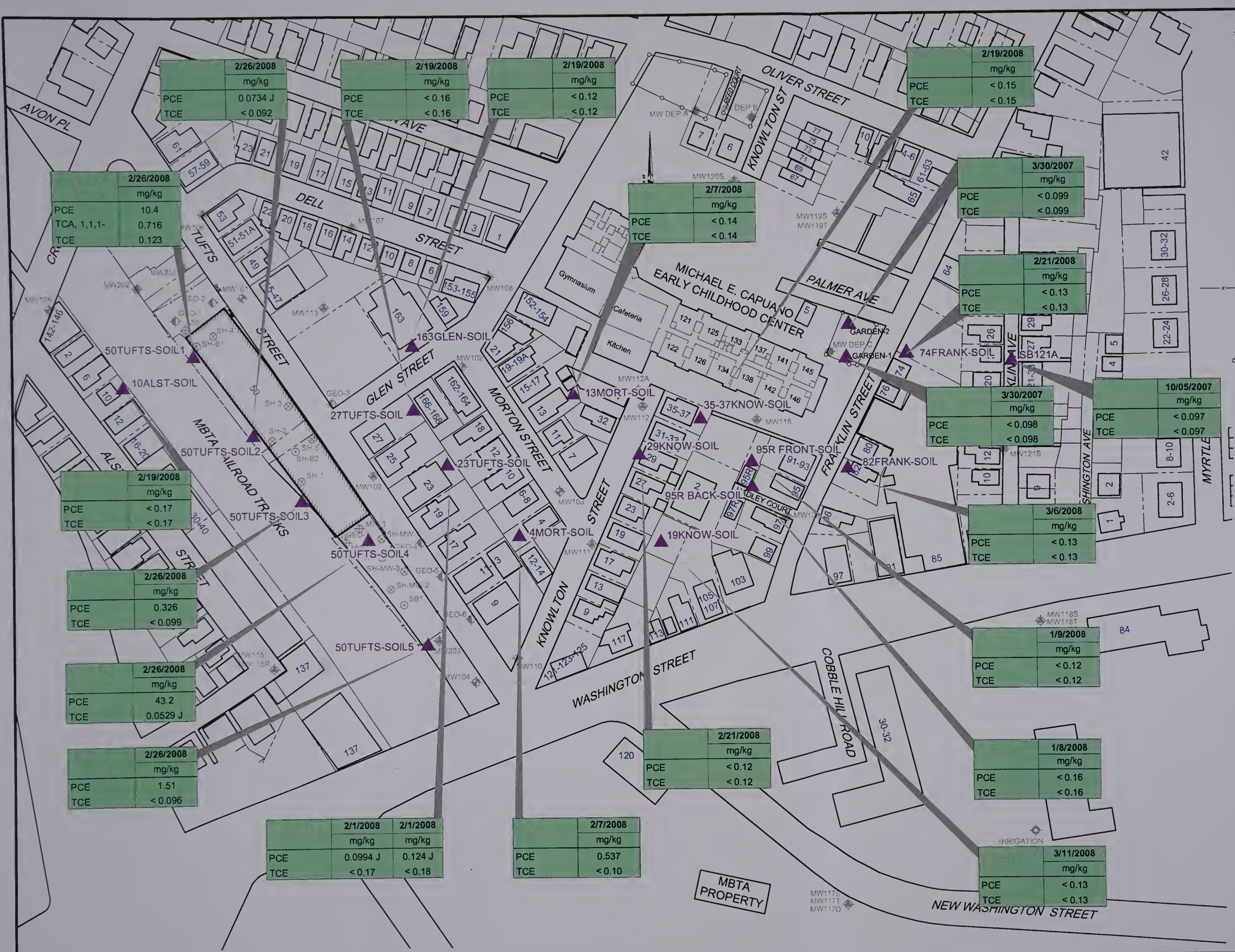
Project 04516-2

SOIL BORING
LABORATORY TESTING
RESULTS

July 2008

Fig. 5-1

N:\04516\#Drafting\045160-2\Phase II CSA Phase III RAP\045162-12



	2/26/2008
	mg/kg
PCE	0.0734 J
TCE	< 0.092

	2/19/2008
	mg/kg
PCE	< 0.16
TCE	< 0.16

	2/19/2008
	mg/kg
PCE	< 0.12
TCE	< 0.12

	2/19/2008
	mg/kg
PCE	< 0.15
TCE	< 0.15

	2/26/2008
	mg/kg
PCE	10.4
TCA, 1,1,1-	0.716
TCE	0.123

	2/7/2008
	mg/kg
PCE	< 0.14
TCE	< 0.14

	3/30/2007
	mg/kg
PCE	< 0.099
TCE	< 0.099

	2/21/2008
	mg/kg
PCE	< 0.13
TCE	< 0.13

	3/30/2007
	mg/kg
PCE	< 0.098
TCE	< 0.098

	10/05/2007
	mg/kg
PCE	< 0.097
TCE	< 0.097

	2/19/2008
	mg/kg
PCE	< 0.17
TCE	< 0.17

	3/6/2008
	mg/kg
PCE	< 0.13
TCE	< 0.13

	2/26/2008
	mg/kg
PCE	0.326
TCE	< 0.099

	1/9/2008
	mg/kg
PCE	< 0.12
TCE	< 0.12

	2/26/2008
	mg/kg
PCE	43.2
TCE	0.0529 J

	2/26/2008
	mg/kg
PCE	1.51
TCE	< 0.096

	2/21/2008
	mg/kg
PCE	< 0.12
TCE	< 0.12

	1/8/2008
	mg/kg
PCE	< 0.16
TCE	< 0.16

	2/1/2008	2/1/2008
	mg/kg	mg/kg
PCE	0.0994 J	0.124 J
TCE	< 0.17	< 0.18

	2/7/2008
	mg/kg
PCE	0.537
TCE	< 0.10

	3/11/2008
	mg/kg
PCE	< 0.13
TCE	< 0.13

LEGEND:

⊕	MONITORING WELL WITH SOIL VAPOR SAMPLE PORT INSTALLED BY GEI, JANUARY 2007 - JANUARY 2008
⊗	MONITORING WELL INSTALLED BY SANBORN HEAD ASSOCIATES, 2002
◐	MONITORING WELL INSTALLED BY GEOINSIGHT, JUNE 2004
⊙	SOIL BORING ADVANCED BY GEOINSIGHT, AUGUST 2004
⊕	MONITORING WELL INSTALLED BY GEI, MAY 2006
●	DRIVEN POINT MONITORING WELL INSTALLED BY MADEP, MAY 2007
⊕	MONITORING WELL INSTALLED PREVIOUSLY, DATE UNKNOWN
△	PREVIOUSLY INSTALLED IRRIGATION WELL
—x—x—	CHAIN LINK FENCE
138	ROOM NUMBER AT CAPUANO SCHOOL
⬠	BOUNDARY OF COMMUNITY GARDENS
84	STREET ADDRESS
▲	APPROXIMATE SHALLOW SOIL SAMPLING LOCATION

MBTA = MASSACHUSETTS BAY TRANSPORTATION AUTHORITY

LABORATORY DATA TABLE NOTES:

1. CONCENTRATIONS OF PCE AND TCE ARE SHOWN FOR EACH SOIL SAMPLE.
2. < = THE ANALYTE WAS NOT DETECTED AT A CONCENTRATIION ABOVE THE LABORATORY REPORTING LIMIT.
3. PCE = TETRACHLOROETHYLENE
4. TCE = TRICHLOROETHYLENE
5. TCA,1,1,1 = 1,1,1 TRICHLOROETHANE
6. J = THE REPORTED RESULTS IS BELOW THE REPORTING LIMIT AND IS ESTIMATED.
7. MG/KG = MILLIGRAM PER KILOGRAM.

GENERAL NOTES:

1. HORIZONTAL CONTROL FOR THIS PLAN WAS ESTABLISHED BY GPS AND IS BASED ON THE NORTH AMERICAN DATUM OF 1983.
2. STREET AND PROPERTY LINES BASED ON SOMERVILLE ASSESSORS' MAPS AND ARE BEST FIT RELATIVE TO THE LOCATION OF THE 50 TUFTS ST. BUILDING.
3. MONITORING WELL LOCATIONS AND ELEVATIONS, AND CAPUANO CENTER COMMUNITY GARDEN LOCATIONS WERE ESTABLISHED BY ON THE GROUND SURVEYS BY BSC GROUP, INC.
4. GEI OBSERVED ABANDONMENT OF SH-MW1 AND SH-1 THROUGH SH-5 IN 2007.

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SHALLOW SOIL LABORATORY TESTING RESULTS

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N:\04516\#Drafting\045160-2\Phase II CSA Phase III RAP\045162-13

	MW107											
	1/17/2007		4/10/2007		7/17/2007		10/9/2007		1/7/2008		4/14/2008	
	ug/m³	ppbv	ug/m³	ppbv	ug/m³	ppbv	ug/m³	ppbv	ug/m³	ppbv	ug/m³	ppbv
Chloroethane	5.5	2.1	7.9	3.0	0.71	0.27	< 0.53	< 0.20	9.0 G	3.4 G	1.0	0.38
Carbon tetrachloride	0.94 J	0.15 J	< 1.3	< 0.20	0.94 J	0.15 J	0.58 J	0.092 J	5.7 G	0.91 G	0.63 J	0.10 J
DCA, 1,1-	97.8	24.1	123	30.3	12	2.9	2.3	0.58	45.3	11.2	40	9.9
DCE, 1,1-	70.6	17.8	107	27.1	5.2 G	1.3 G	1.1	0.27	23 G	5.9 G	27	8.7
DCE, cis-1,2-	<0.79	<0.20	0.63 J	0.16 J	< 0.79	< 0.20	< 0.79	< 0.20	0.52 J	0.13 J	< 0.79	< 0.20
PCE	0.95 J	0.14 J	4.2	0.92	15 G	2.2 G	0.95 J	0.14 J	< 1.4	< 0.20	5.4	0.79
TCA, 1,1,1-	4.0	0.74	4.4	0.81	4.1 G	0.76 G	1.3	0.24	1.8	0.33	4.5	0.92
TCE	5.9	1.1	4.1	0.76	17 G	3.2 G	2.9	0.53	2.4	0.44	4.2	0.79
Vinyl Chloride	4.1	1.9	5.9	2.3	< 0.51	< 0.20	< 0.81	< 0.20	3.9	1.4	0.89	0.27

	MW108											
	1/17/2007		4/10/2007		7/17/2007		10/9/2007		1/7/2008		4/14/2008	
	ug/m³	ppbv	ug/m³	ppbv	ug/m³	ppbv	ug/m³	ppbv	ug/m³	ppbv	ug/m³	ppbv
Carbon tetrachloride	0.92 J	0.099 J	< 1.3	< 0.20	< 1.3	< 0.20	< 1.3	< 0.20	< 1.3	< 0.20	< 1.3	< 0.20
PCE	94.9	14	75.9	11.2	90.9	13.4	13	1.9	1.8	0.23	2.3	0.34
TCE	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	2.4	0.44	< 1.1	< 0.20	< 1.1	< 0.20

	MW120S			
	8/28/2007		10/18/2007	
	ug/m³	ppbv	ug/m³	ppbv
Chloroethane	0.58	0.22	1.0	0.38
Carbon Tetrachloride	0.92 J	0.098 J	< 1.3	< 0.20
DCA, 1,1-	51.9	12.9	48.2	11.9
DCE, 1,1-	1.1	0.29	0.75 J	0.19 J
DCE, trans-1,2-	0.81	0.2	< 0.79	< 0.20
PCE	19	2.7	< 1.4	< 0.20
TCA, 1,1,1-	0.55 J	0.10 J	< 1.1	< 0.20
TCE	4.9	0.9	0.86 J	0.19 J
Vinyl Chloride	0.51	0.2	0.74	0.29

	MW119S			
	8/28/2007		10/18/2007	
	ug/m³	ppbv	ug/m³	ppbv
Chloroethane	1.9	0.92	0.9	0.34
DCA, 1,2-	0.95	0.21	1.4	0.35
PCE	12	1.7	1.0 J	0.15 J
TCE	1.2	0.23	0.64 J	0.12 J
Vinyl Chloride	1.2	0.47	0.46 J	0.18 J

	MW106													
	1/18/2007		1/18/2007 (FD)		4/10/2007		7/17/2007		10/9/2007		1/7/2008		4/14/2008	
	ug/m³	ppbv	ug/m³	ppbv	ug/m³	ppbv	ug/m³	ppbv	ug/m³	ppbv	ug/m³	ppbv	ug/m³	ppbv
Chloroethane	< 2.6	< 1.0	< 1.1	< 0.40	< 0.53	< 0.20	< 5.3	< 2.0	4.2	1.6	< 0.53	< 0.2	< 0.53	< 0.20
DCA, 1,1-	12	3.0	3.7	0.92	2.9	0.64	8.1 G	2.0 G	11	2.8	2.9	0.71	1.2	0.29
DCE, 1,1-	204	51.5	58.7	14.6	20	5.1	153 G	38.8 G	280	70.7	39	9.8	15	3.7
DCE, cis-1,2-	< 4.0	< 1.0	< 1.6	< 0.40	< 0.79	< 0.20	< 7.9	< 0.20	1.7	0.44	< 0.79	< 0.2	< 0.79	< 0.20
PCE	47	9.9	16	2.4	14	2.1	203 G	30 G	162	23.9	29	4.1	22	3.3
TCA, 1,1,1-	520	95.3	170	31.2	70	20.9	406 G	74.5 G	802	147	169	31	71.5	13.1
TCE	69.9	13	22	4.1	18	3.3	127 G	23.8 G	149	27.8	33	8.1	21	3.9
Vinyl Chloride	< 2.8	< 1.0	< 1.0	< 0.40	< 0.51	< 0.20	< 5.1	< 2.0	1.7	0.68	< 0.51	< 0.2	< 0.51	< 0.20

	MW201					
	10/19/2007		1/8/2008		4/14/2008	
	ug/m³	ppbv	ug/m³	ppbv	ug/m³	ppbv
Chloroethane	1.2	0.45	< 11	< 4.0	< 11	< 4.0
DCA, 1,1-	3.1	0.78	< 16	< 4.0	< 18	< 4.0
DCE, 1,1-	109	27.5	59.9	15.1	39	9.9
DCE, cis-1,2-	7.9	2.0	< 18	< 4.0	< 18	< 4.0
PCE	8000	1180	5160 G	761 G	4830	713
TCA, 1,1,1-	1520	276	617	113	232	42.5
TCE	1530	285	1300	241	656	122
Vinyl Chloride	0.79	0.31	< 10	< 4.0	< 10	< 4.0

	MW202													
	7/17/2007		10/19/2007		1/8/2008		1/16/2008		1/17/2008		1/21/2008		4/14/2008	
	ug/m³	ppbv	ug/m³	ppbv	ug/m³	ppbv	ug/m³	ppbv	ug/m³	ppbv	ug/m³	ppbv	ug/m³	ppbv
Chloroethane	< 11	< 4.0	2.3	0.88	< 11 J+	< 4.0 J+	< 0.53	< 0.20	< 0.53	< 0.20	< 0.53	< 0.20	< 5.3	< 2.0
DCA, 1,1-	< 18	< 4.0	40	9.9	23 J+	5.8 J+	< 0.81	< 0.20	< 0.81	< 0.20	< 0.81	< 0.20	3.6 J	0.89 J
DCE, 1,1-	11 J	2.6 J	326	82.3	468 J+	116 J+	0.79	0.2	0.48 J	0.12 J	0.56 J	0.14 J	103	26.1
DCE, cis-1,2-	< 18	< 4.0	4.4	1.1	< 18 J+	< 4.0 J+	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 7.9	< 2.0
DCE, trans-1,2-	< 16	< 4.0	0.67	0.22	< 18 J+	< 4.0 J+	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 7.9	< 2.0
PCE	2550	378	7460	1100	5390 G	795 G	252	37.1	366	54	403	59.4	2160	318
TCA, 1,1,1-	537	98.5	4340	796	2280 G	416 G	28	5.1	27	4.9	35	6.4	978	161
TCA, 1,1,2-	< 22	< 4.0	1.6	0.3	< 22 J+	< 4.0 J+	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 11	< 2.0
TCE	253	47	393	73.2	575 J+	107 J+	11	2	11	2	15	2.7	123	22.8
Vinyl Chloride	< 10	< 4.0	1.9	0.73	< 10 J+	< 4.0 J+	< 0.51	< 0.20	< 0.51	< 0.20	< 0.51	< 0.20	< 5.1	< 2.0

	MW113							
	2/19/2007		4/10/2007		1/8/2008		4/14/2008	
	ug/m³	ppbv	ug/m³	ppbv	ug/m³	ppbv	ug/m³	ppbv
DCA, 1,1-	8.1	2.0	0.57 J	0.14 J	1.5	0.37	3.0	0.73
DCE, 1,1-	21	5.2	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20
PCE	9.9 J	1.3 J	3.7	0.55	3.6	0.56	6.0	0.89
TCA, 1,1,1-	11	2.0	< 1.1	< 0.20	1.3	0.24	3.3	0.61
TCE	16	3.0	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20

	MW114											
	2/19/2007		4/10/2007		7/17/2007		10/9/2007		1/7/2008		4/14/2008	
	ug/m³	ppbv	ug/m³	ppbv	ug/m³	ppbv	ug/m³	ppbv	ug/m³	ppbv	ug/m³	ppbv
Chloroethane	< 5.3	< 2.0	0.77	0.29	< 0.53	< 0.20	3.7	1.4	0.98	0.37	< 0.53	< 0.20
Carbon Tetrachloride	< 31	< 5.0	< 1.3	< 0.20	0.69 J	0.11 J	0.88 J	0.14 J	< 1.3	< 0.20	< 1.3	< 0.20
PCE	< 14	< 2.0	12	1.7	17	2.5	40	5.9	13	1.9	17	2.5
TCA, 1,1,1-	< 11	< 2.0	< 1.1	< 0.20	0.76 J	0.14 J	2.3	0.43	0.52 J	0.095 J	< 1.1	< 0.20
TCE	4.0	0.75	0.86 J	0.16 J	1.5	0.27	7.5	1.4	1.8	0.33	2.0	0.37
Vinyl Chloride	< 5.1	< 2.0	0.36 J	0.14 J	< 0.51	< 0.20	< 0.51	< 0.20	< 0.51	< 0.20	< 0.51	< 0.20

	MW109									
	1/17/2007		4/10/2007		10/9/2007		1/7/2008		4/14/2008	
	ug/m³	ppbv	ug/m³	ppbv	ug/m³	ppbv	ug/m³	ppbv	ug/m³	ppbv
PCE	9020	1330	3950	582	18900	2780	3510	518	4850 G	715 G
TCA, 1,1,1-	573	105	322	59.1	354	64.9	97.8	18.1	113	20.7
TCE	<110	<20	31 J	5.7 J	32	5.9	< 21	< 4.0	19 J	3.8 J

	MW115R											
	3/20/2007		4/10/2007		7/17/2007		10/16/2007		1/7/2008		4/14/2008	
	ug/m³	ppbv	ug/m³	ppbv	ug/m³	ppbv	ug/m³	ppbv	ug/m³	ppbv	ug/m³	ppbv
Carbon Tetrachloride	< 1.3	< 0.20	< 1.3	< 0.20	< 1.3	< 0.20	0.63 J	0.10 J	2.8	0.44	0.69 J	0.11 J
DCA, 1,1-	0.65 J	0.16 J	< 0.81	< 0.20	< 0.91	< 0.20	< 0.91	< 0.20	< 0.81	< 0.20	< 0.91	< 0.20
DCE, 1,1-	1.3	0.33	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20	< 0.79	< 0.20
PCE	12	1.8	< 1.4	< 0.20	71.2	10.5	12	1.8	14	2.0	2.1	0.31
TCE	< 1.1	< 0.20	< 1.1	< 0.20	0.75 J	0.14 J	1.0 J	0.19 J	2.0	0.38	< 1.1	< 0.20

	MW115	
	2/19/2007	
	ug/m³	ppbV
PCE	42	6.2
TCE	15	2.7

	MW110
	1/17/2007
All analytes	ND

	MW111											
	1/17/2007		4/11/2007		7/17/2007		10/9/2007		1/7/2008		4/14/2008	
	ug/m³	ppbv	ug/m³	ppbv	ug/m³	ppbv	ug/m³	ppbv	ug/m³	ppbv	ug/m³	ppbv
DCA, 1,1-	943	233	67.2 J	16.9 J	< 910	< 200	< 4900	< 1200	< 91	< 20	29	8.8
DCE, 1,1-	819 J	156 J	< 79	< 20	< 790	< 200	< 4800	< 1200	< 79	< 20	< 19	< 4.0
DCE, cis-1,2-	<790	<200	46.4 J	11.7 J	< 790	< 200	< 4900	< 1200	35 J	9.8 J	19	4.1
PCE	269000	39700	52600	7780	178000 G	29200 G	1360000	200000	83400	12300	49600	7310
TCA, 1,1,1-	4650	953	715	131	2770	507	12900	2350	519	95.1	497	91.1
TCE	2600	484	469	96.7	1520	282	5590 J	1040 J	286	53.2	250	49.9

	MW117S							
	7/17/2007		10/9/2007		1/8/2008		4/14/2008	
	ug/m³	ppbv	ug/m³	ppbv	ug/m³	ppbv	ug/m³	ppbv
DCA, 1,1-	4.5	1.1	< 4.0	< 1.0	< 9.1	< 2.0	< 0.81	< 0.20
PCE	12	1.7	7.5	1.1	< 14	< 2.0	2.4	0.35
TCA, 1,1,1-	1.4	0.28	< 5.5	< 1.0	< 11	< 2.0	< 1.1	< 0.20
TCE	4.2	0.79	< 1.1	< 0.20	< 11	< 2.0	< 1.1	< 0.20

	MW118S									
	7/17/2007		8/31/2007		10/9/2007		1/8/2008		4/14/2008	
	ug/m³	ppbv	ug/m³	ppbv	ug/m³	ppbv	ug/m³	ppbv	ug/m³	ppbv
Carbon Tetrachloride	4.8	0.77	2.2	0.35	2.1	0.34	0.75 J	0.12 J	< 1.3	< 0.20
DCA, 1,1-	< 0.91	< 0.20	< 0.91	< 0.20	< 0.81	< 0.20	< 0.91	< 0.20	2.9	0.89
DCA, 1,2-	< 0.81	< 0.20	< 0.81	< 0.20	0.40 J	0.098 J	< 0.91	< 0.20	< 0.91	< 0.20
PCE	231	34.1	155	22.9	176	26	182	26.9	6.0	0.86
TCA, 1,1,1-	8.2	1.5	8.0	1.1	7.6	1.4	5.4	0.99	3.1	0.57
TCE	2.1	0.39	< 1.1	< 0.20	< 1.1	< 0.20	13	2.4	< 1.1	< 0.20

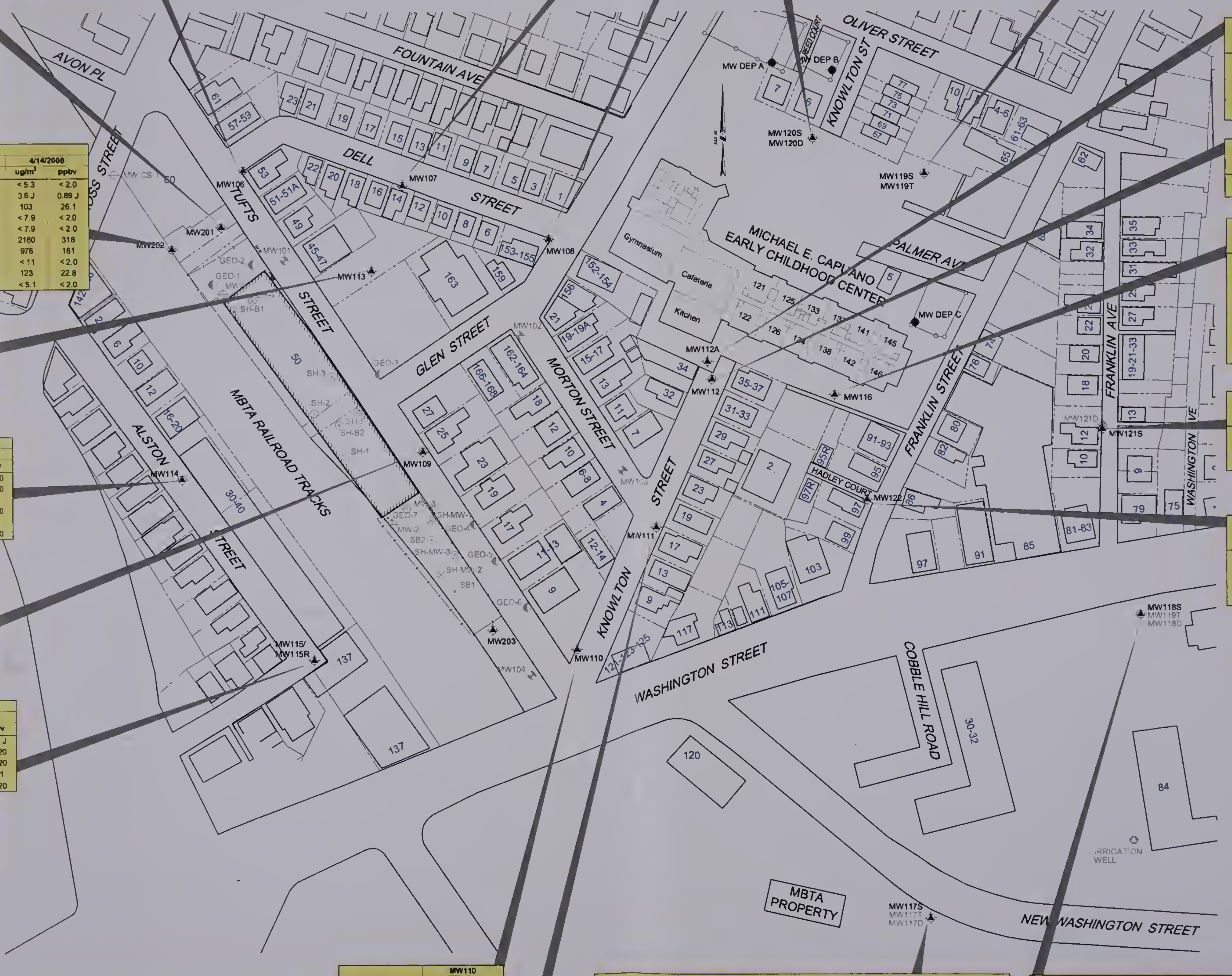
	MW112A											
	3/20/2007		4/11/2007		7/17/2007		10/9/2007		1/7/2008		4/14/2008	
	ug/m³	ppbv	ug/m³	ppbv	ug/m³	ppbv	ug/m³	ppbv	ug/m³	ppbv	ug/m³	ppbv
DCA, 1,1-	429	106	155	38.2	359 G	86.8 G	1150	284	2280 G	564 G	449	111
DCE, 1,1-	921	207	318	80.3	777 G	196 G	2080	524	3400 G	857 G	478	120
DCE, cis-1,2-	< 40	< 10	< 79	< 20	< 7.9	< 2.0	40.9	10.3	360	90.9	38	9.9
PCE	8230	919	9240	920	9140	1200	11300	1660	17400	2570	8010 G	986 G
TCA, 1,1,1-	85.1	15.9	86.0 J	12.1 J	139 G	25.5 G	262	48	467	85.8	44	8.1
TCE	951	177	505	93.9	2030 G	377 G	3980	740	2930 G	546 G	1210	225

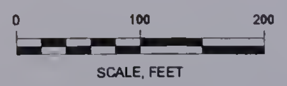
	MW112	
	1/17/2007	
	ug/m³	ppbv
Carbon tetrachloride	0.69J	0.11 J
PCE	2.8	0.41

	MW116											
	3/20/2007		4/11/2007		7/17/2007		10/9/2007		1/30/2008		4/14/2008	
	ug/m³	ppbv	ug/m³	ppbv	ug/m³	ppbv	ug/m³	ppbv	ug/m³	ppbv	ug/m³	ppbv
Chloroethane	< 26	< 10	< 53	< 20	28	10.9	91.9	34.8	< 11	< 4.0	< 11	< 4.0
DCA, 1,1-	379	93.5	923	228	1490 G	367 G	2550	629	482 G	119 G	365	90.3
DCE, 1,1-	978	221	1570	395	634 G	160 G	436	110	813 G	205 G	619	156
DCA, 1,2-	< 40	< 10	< 79	< 20	5.7 J	1.4 J	< 9.1	< 2.0	< 19	< 4.0	< 18	< 4.0
DCE, trans-1,2-	< 40	< 10	< 79	< 20	151	38.1	64.9	21.4	< 16	< 4.0	< 16	< 4.0
DCE, cis-1,2-	254	84	2920	661	1740 G	438 G	4480	1130	702 G	177 G	265	66.9
PCE	11100	1630	21500 G	3170 G	25500 G	3760 G	9630	1420	6600 G	974 G	15700	2320
TCA, 1,1,1-	192	35.2	492	90.2	1020 G	197 G	408	74.8	206	37.7	125	22.9
TCE	2140	398	6400	1190	2620 G	488 G	2250	419	1630 G	341 G	1920	338
Vinyl Chloride	99	34.8	514	201	64.7	25.3	762	298	< 10	< 4.0	< 10	< 4.0

	MW121S			
	10/22/2007		1/8/2008	
	ug/m³	ppbv	ug/m³	ppbv
DCA, 1,1-	2.1	0.52	< 0.91	< 0.20
DCE, 1,1-	0.67 J	0.17 J	< 0.79	< 0.20
PCE	2.0	0.3	1.8	0.26
Vinyl Chloride	1.9	0.72	< 0.51	< 0.20

	MW122			
	1/30/2008		4/14/2008	
	ug/m³	ppbv	ug/m³	ppbv
DCA, 1,1-	11 J	2.9 J	5.3	1.3
DCE, 1,1-	12 J	3.0 J	2.9 J	0.71 J
DCE, cis-1,2-	9.1 J	2.3 J	4.9	1.2
PCE	5320	784	1340	197
TCE	89.3	12.9	35	8.8





LEGEND:

- ⊕ MONITORING WELL WITH SOIL VAPOR SAMPLE PORT INSTALLED BY GEI, JANUARY 2007 - JANUARY 2008
- ⊗ MONITORING WELL INSTALLED BY SANBORN HEAD ASSOCIATES, 2002
- ◐ MONITORING WELL INSTALLED BY GEOINSIGHT, JUNE 2004
- ⊙ SOIL BORING ADVANCED BY GEOINSIGHT, AUGUST 2004
- ● MONITORING WELL INSTALLED BY GEI, MAY 2006
- ◆ DRIVEN POINT MONITORING WELL INSTALLED BY MADEP, MAY 2007
- ⊕ MONITORING WELL INSTALLED PREVIOUSLY, DATE UNKNOWN
- ○ PREVIOUSLY INSTALLED IRRIGATION WELL
- CHAIN LINK FENCE
- 138 ROOM NUMBER AT CAPUANO SCHOOL
- BOUNDARY OF COMMUNITY GARDENS
- 84 STREET ADDRESS

MBTA = MASSACHUSETTS BAY TRANSPORTATION AUTHORITY

LABORATORY DATA TABLE NOTES:

1. ONLY DETECTED CHLORINATED VOCs ARE SHOWN HERE.
2. CONCENTRATIONS ARE SHOWN IN PARTS PER BILLION BY VOLUME (PPBV) AND MICROGRAMS PER CUBIC METER (ug/m³).
3. "ND" = NOT DETECTED
4. J = THE REPORTED RESULT IS BELOW THE LABORATORY REPORTING LIMITS IS ESTIMATED.
5. G = THE RESULT IS ESTIMATED DUE TO DUPLICATE PRECISION OUTSIDE THE CONTROL LIMITS.
6. < = ANALYTE WAS NOT DETECTED AT A CONCENTRATION ABOVE THE SPECIFIED LIMIT.
7. PCE = TETRACHLOROETHYLENE
8. TCE = TRICHLOROETHYLENE
9. DCA,1,1 = DICHLOROETHANE,1,1-.
10. DCE,1,1 = DICHLOROETHYLENE,1,1-.
11. DCE,CIS-1,2 = DICHLOROETHYLENE, CIS-1,2-.
12. DCE,TRANS,1,2 = DICHLOROETHYLENE, TRANS,-1,2-
13. DCA,1,2 = DICHLOROETHANE,1,2-.
14. TCA 1,1,1 = TRICHLOROETHANE,1,1,1-.
15. TCA 1,1,2 = TRICHLOROETHANE,1,1,2-.

GENERAL NOTES:

1. HORIZONTAL CONTROL FOR THIS PLAN WAS ESTABLISHED BY GPS AND IS BASED ON THE NORTH AMERICAN DATUM OF 1983.
2. STREET AND PROPERTY LINES BASED ON SOMERVILLE ASSESSORS' MAPS AND ARE BEST FIT RELATIVE TO THE LOCATION OF THE 50 TUFTS ST. BUILDING.
3. CAPUANO CENTER BUILDING IS BASED ON DRAWING A0.2 FROM THE ARCHITECTURAL BID SET OF "THE EDGERTY EARLY CHILDHOOD DEVELOPMENT CENTER" BY HMFH ARCHITECTS, INC., DATED AUGUST 10, 2001.
4. MONITORING WELL LOCATIONS AND ELEVATIONS, AND CAPUANO CENTER COMMUNITY GARDEN LOCATIONS WERE ESTABLISHED BY ON THE GROUND SURVEYS BY BSC GROUP, INC.
5. GEI OBSERVED ABANDONMENT OF SH-MW1 AND SH-1 THROUGH SH-5 IN 2007
6. REFER TO THE TEXT OF THIS REPORT FOR SAMPLING DATES.

Phase II CSA and Phase III RAP
50 Tufts Street
Somerville, Massachusetts
UniFirst Corporation
Wilmington, Massachusetts

GEI Consultants

SUBSURFACE SOIL VAPOR LABORATORY TESTING RESULTS

Project 04516-2 | July 2008 | Fig. 5-3

N:\04516\#Drafting\045160-2\Phase II CSA Phase III RAP\045162-14

MW106 (9-19)	1/18/07	4/13/07	7/18/07	10/10/07	1/10/08	4/17/08
DCE, 1,1-	4.4	8.3	3.4	3.9	4.1	1.5
PCE	1.0 F-	1.2	2.3	1.7	2.3	0.44 J
TCA, 1,1,1-	15.3	1.5 H	8.4	11.3	14.9	2.3
TCE	3.7	4.8	3.8	4.4	4.9	1.2

MW201 (11-21)	7/19/07	10/12/07	1/11/08	4/15/08
DCE, 1,1-	4.7	4.9	5.2	0.50 J
PCE	5.1	19.8	25.8	17.2
TCA, 1,1,1-	9.8	36.3	32.9	12.5
TCE	4.5	7.2	8.2	2.2

GEO-1(5-20)	8/16/04	5/23/06	10/5/06	1/17/07	1/17/07 (FD)	4/12/07	4/15/08
Carbon tetrachloride	< 20	3.8	1.4	2.3	2.3	5.4	< 1.0
DCA, 1,1-	< 20	4.3	2.9	5.4	5.8	10.8	< 1.0
DCE, 1,1-	39.8	969	172	247	241	8960	3.0
DCA, 1,2-	< 20	< 1.0	< 1.0	< 1.0	< 1.0	1.3	< 1.0
DCE, cis,1,2-	< 20	4.3	2.3	3.3	< 1.0	8.7	< 1.0
PCE	1880	18800	19600	17300	18000	48500	135
TCA, 1,1,1-	1720	19100	9620	13300	14200	42500 H	29.5
TCA, 1,1,2-	< 20	< 1.0	< 1.0	0.94 J	0.99 J	3.8	< 1.0
TCE	898	10000	5530	9090	9660	30600	18.9

MW202 (10.5-20.5)	7/19/07	10/12/07	1/11/08	4/15/08
DCA, 1,1-	0.50 J	< 1.0	< 1.0	0.46 J
DCE, 1,1-	1.1	< 1.0	< 1.0	2.9
PCE	17.2	14.6	21.8	55.8
TCA, 1,1,1-	12.5	4.4	4.2	35.2
TCE	2.2	1.5	1.8	8.9

MW-CS-1 (unknown)	5/23/07	4/16/08
PCE	< 1.0	< 1.0
TCE	< 1.0	<1.0

MW105 (19-29)	5/24/06	10/5/06	1/17/07	4/16/07	7/19/07	10/10/07	1/9/08	4/18/08
PCE	7.8	0.69 J	0.87 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TCE	< 1.0	3.4	3.2	1.5	1.5	1.8	2.2	1.7

MW-1 (unknown)	7/1/02	8/9/04	5/23/06	1/17/07	4/17/07
Carbon tetrachloride	< 5000	< 2000	19	22.4	< 500
DCA, 1,1-	< 7500	< 2000	59.8	59.9	< 500
DCA, 1,2-	< 5000	< 2000	4.0	< 1.0	< 500
DCE, 1,1-	< 5000	< 2000	11500	1260	2290
DCE, cis-1,2-	< 5000	< 2000	24.3	7.7	< 500
TCA, 1,1,1,2-	< 5000	< 2000	38.1	22.6	< 2500
PCE	52000	24200	34400	74900	49600
TCA, 1,1,1-	290000	112000	255000	135000	151000
TCA, 1,1,2-	< 7500	< 2000	85.6	18.2	< 500
TCE	220000	128000	175000	120000	103000

MW113 (10-20)	2/20/07	4/12/07	7/18/07	7/16/07 (FD)	10/10/07	10/10/07(FD)	1/11/08	1/11/08 (FD)	4/15/08	4/15/08 (FD)
DCE, 1,1-	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	0.43 J	0.33 J
PCE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TCE	< 1.0	0.82 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0

GEO-3 (5-20)	8/16/04	5/24/06	5/24/06 (FD)	10/4/06	10/4/06 (FD)	1/18/07	4/13/07	10/10/07
DCE, 1,1-	108	< 1.0	< 1.0	59.3	59.1	11.5	1.4	< 1.0
PCE	4020	162	157	2720	2340	529	93.2	0.84 J
TCE	507	14.4	14.1	209	207	70.2	10	< 1.0

MW114 (7-17)	2/20/07	4/13/07	7/18/07	10/10/07	1/11/08	4/17/08
PCE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TCE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0

MW109 (3-13)	1/18/07	4/18/07	4/17/08
PCE	178 F-	28.5	17.4
TCA, 1,1,1-	0.77 J	0.67 J	0.31 J
TCE	4.5	< 1.0	0.52 J

MW-3 (unknown)	7/1/02	8/9/04	5/23/06	1/17/07	4/17/07	4/15/08
PCE	18000	16200	22100	51900	6550	400
TCA, 1,1,1-	< 250	< 100	39.1	68.7	11.1 J	< 1.0
TCE	< 250	< 100	86.8	247	13.8 J	1.6

GEO-4 (4-19)	8/16/04	5/24/06	10/4/06	1/16/07	4/16/07
DCA, 1,1-	< 100	2.7	7.1	< 20	< 10
DCE, 1,1-	< 100	8.1	17.8	< 20	< 10
DCA, cis,1,2-	< 100	8.3	18.7	< 20	5.5 J
PCE	12900	6690	24100	16700	8240
TCA, 1,1,1-	1170	113	321 T	113	70.9
TCE	720	86.8	235	129	74.8

SH-MW3 (10-24)	7/8/02	5/23/06	10/4/06	1/17/07	4/12/07	4/15/08
DCA, 1,1-	< 380	21.6	36.5	< 100	24.5	< 100
DCE, 1,1-	< 250	91	84.4	<100	61.3	<100
DCE, cis-1,2-	< 250	37.2	102	< 100	39.8	34.5 J
PCE	28000	18900	28300	29700	34000	15200
TCA, 1,1,1-	1200	989	1680	606	621 E J+	116
TCE	870	482	1030	709	1030	306

MW115R (10-25)	3/23/07	4/13/07	7/18/07	10/10/07	1/9/08	4/17/08
PCE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TCE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0

SH-MW2 (10-25)	7/8/02	8/16/04	5/23/06	10/4/06	1/18/07	4/18/07	7/19/07
DCA, 1,1-	< 38	< 100	1.0	20.9	5.7	< 2	12.4
DCE, 1,1-	< 25	< 100	10.1	45.0	9.8	2.1	23.6
DCE, cis-1,2-	< 25	< 100	3.8	45.7	14.7	1.4 J	26.1
PCE	2000	7170	1730	7190	2880 F+	726	3320
TCA, 1,1,1-	660	1550	158	1330	360	44.1	539
TCE	190	572	92.8	486	171	26.5	354

GEO-5 (5-20)	6/16/04	5/24/06	10/4/06	1/18/07	4/16/07
DCA, 1,1-	< 100	< 1.0	< 1.0	< 50	< 1.0
DCE, 1,1-	< 100	8.9	32.7	< 50	< 1.0
DCE, cis-1,2-	< 100	12.5	35.2	< 50	< 1.0
PCE	14400	2440	12900	254 F+	17.9
TCA, 1,1,1-	646	246	652	< 50	< 1.0
TCE	404	146	446	< 50	< 1.0

GEO-6 (5-20)	8/16/04	5/24/06	10/4/06	1/18/07	1/18/07 (FD)	4/18/07	4/18/07 (FD)
DCA, 1,1-	< 100	2.0	4.4	1.7	1.6	0.92 J	1.1
DCE, 1,1-	< 100	4.8	11.0	4.4	3.2	2.8	3.6
DCA,cis-1,2-	14.6	9.1	15.4	7.7	6.9	5.3	6.3
PCE	782	875	1980	632	594 F+	616	467
TCA, 1,1,1-	27.8	42.5	77.2 T	33.7	25.3	21.2	26.8
TCE	122	78.8	131	75.3	56.5	55.5	70.5

MW104 (5-15)	5/23/06	10/5/06	1/16/07	4/13/07	7/19/07	10/15/07	1/11/08	4/15/08
Chloroethane	2.7	10.3	8.1	4.7	8.9	8.6	2.3	< 2.0
DCA, 1,1-	33.0	98.9	57.1	46.8	68.3	68.8	38.7	33.0
DCE, 1,1-	3.3	9.4	2.6	10.0	2.8	4.5	1.7	1.8
DCE, cis-1,2-	196	435	244	250	194	279	148	145
DCE, trans-1,2-	2.2	9.3	8.2	3.8	2.5	4.1	3.5	2.0
PCE	60.4	160	29.3	39.8	31.2	49.3	12.1	22.4
TCA, 1,1,1-	21	138	23.2	5.8 H	28	69.8	12.5	10.6
TCE	63.4	110	49.1	81.4	40.4	< 1.0	27	34.9
Vinyl chloride	23.7	38.4	47.4	40.4	38.2	68	26.4	29.6

MW203 (6-16)	7/19/07	4/15/08
DCA, 1,1-	22.2	13.0 J
DCE, 1,1-	78.4	36.8 J
DCE, cis-1,2-	102	76.6
DCE, trans,1,2-	1.2	< 50
PCE	15500	11500
TCA, 1,1,1-	1710	688
TCA, 1,1,2-	0.66 J	< 50
TCE	679	618

GEO-2 (5-20)	8/18/04	5/23/06	10/5/06	1/17/07	4/12/07
DCA, 1,1-	23.2	2.2	2.0	< 5.0	2.5
DCE, 1,1-	< 5.0	14.2	26.3	25.2	11.5
PCE	285	131	693	1420	120
TCA, 1,1,1-	490	125	376	867	147 H
TCE	60	27.3	170	602	36

MW101 (9-19)	5/24/06	10/5/06	1/17/07	4/13/07	4/13/07 (FD)
DCA, 1,1-	< 1.0	< 1.0	< 1.0	< 1.0	1.8
DCE, 1,1-	8.7	21.1	14.1	< 1.0	4.8 G
DCA, 1,2-	< 1.0	< 1.0	< 1.0	3.9 G	< 1.0
DCA,cis-1,2-	< 1.0	< 1.0	1.3	< 1.0	2.1 G
PCE	163	171	192	94	90.7
TCA, 1,1,1-	110	146	131	50.5 H	43 H
TCE	50.5	30.2	38.4	47.2	45.7

MW107 (2-12)	1/18/07	4/13/07	7/18/07	10/10/07	1/10/08	4/17/08
DCA, 1,1-	4.8	4.3	0.5	< 1.0	2.1	3.4
DCE, 1,1-	3.2	3.7	< 1.0	< 1.0	1.3 G	2.3
PCE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
TCE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0

MW102 (6-16)	5/24/06	10/5/06	1/16/07	4/13/07	7/18/07	10/10/07	1/10/08	4/17/08
DCA, 1,1-	< 1.0	0.88 J	< 1.0	< 1.0	0.42 J	2.1	4.1	0.51 J
DCE, 1,1-	8.3	50.2	30.0	< 1.0	23.6	36.7	81.6	22.2 C+
PCE	200	898	692	20.3	524	685	608	438 C+
TCA, 1,1,1-	< 1.0	65.7 T	32.6	< 1.0	26.3	69.8	121	21.6 C+
TCE	15.8	66.1	57	2.0	46.1	61	65.3	35.8 C+

MW108 (2-12)	1/18/07	4/16/07	7/18/07	10/10/07	1/10/08	4/17/08
PCE	< 1.0	< 1.0	< 1.0	0.60 J	< 1.0	< 1.0
TCE	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0

MW120S (5-20)	8/22/07	10/12/07	1/15/08	4/16/08
DCA, 1,1-	1.1 J+	4.3	< 1.0	< 1.0
PCE	< 1.0	< 1.0	0.97 J	<1.0

MW116S (5-20)	8/22/07	10/12/07	1/15/08	4/16/08
PCE	< 1.0 J+	< 1.0	< 1.0	< 1.0
TCE	< 1.0 J+	< 1.0	< 1.0	<1.0

MW112A (4-19)	3/23/07	4/16/07	7/18/07	10/10/07	1/10/08	4/17/08
DCA, 1,1-	27.6	24	8.4	35.8	114	40.6 C+
DCE, 1,1-	16.7	10.6	6.7	19.7	82.4	36.8 C+
DCE, cis-1,2-	<1.0	0.54 J	0.98 J	4.2	18.7	55.3 C+
PCE	261	198	144	156	359	202 C+
TCA, 1,1,1-	1.3	0.96 J	0.88 J	1.4	5.8	1.9 C+
TCE	34	38.1	26.7	61.3	142	72.8 C+

SH-MW1 (10-30)	7/8/02	5/23/06	10/4/06	1/16/07	4/12/07
DCA, 1,1-	< 380	11.4	12	8.5	12.7
DCE, 1,1-	< 250	11.7	16.3	6.0	24.4
DCE, cis-1,2-	< 250	2.1	7.3	11.2	2.7
TCA, 1,1,1-	< 250	34.5	69.7 T	31.4	27.9 H
PCE	21000	16200	28300	31700 F+	48900
TCE	< 500	141	317	141	159
Vinyl Chloride	< 500	< 1.0	< 1.0	< 1.0	0.55 J

MW121S (5-20)	10/22/07	1/15/08	4/16/08
PCE	<1.0	< 1.0	< 1.0
TCE	<1.0	< 1.0	<1.0

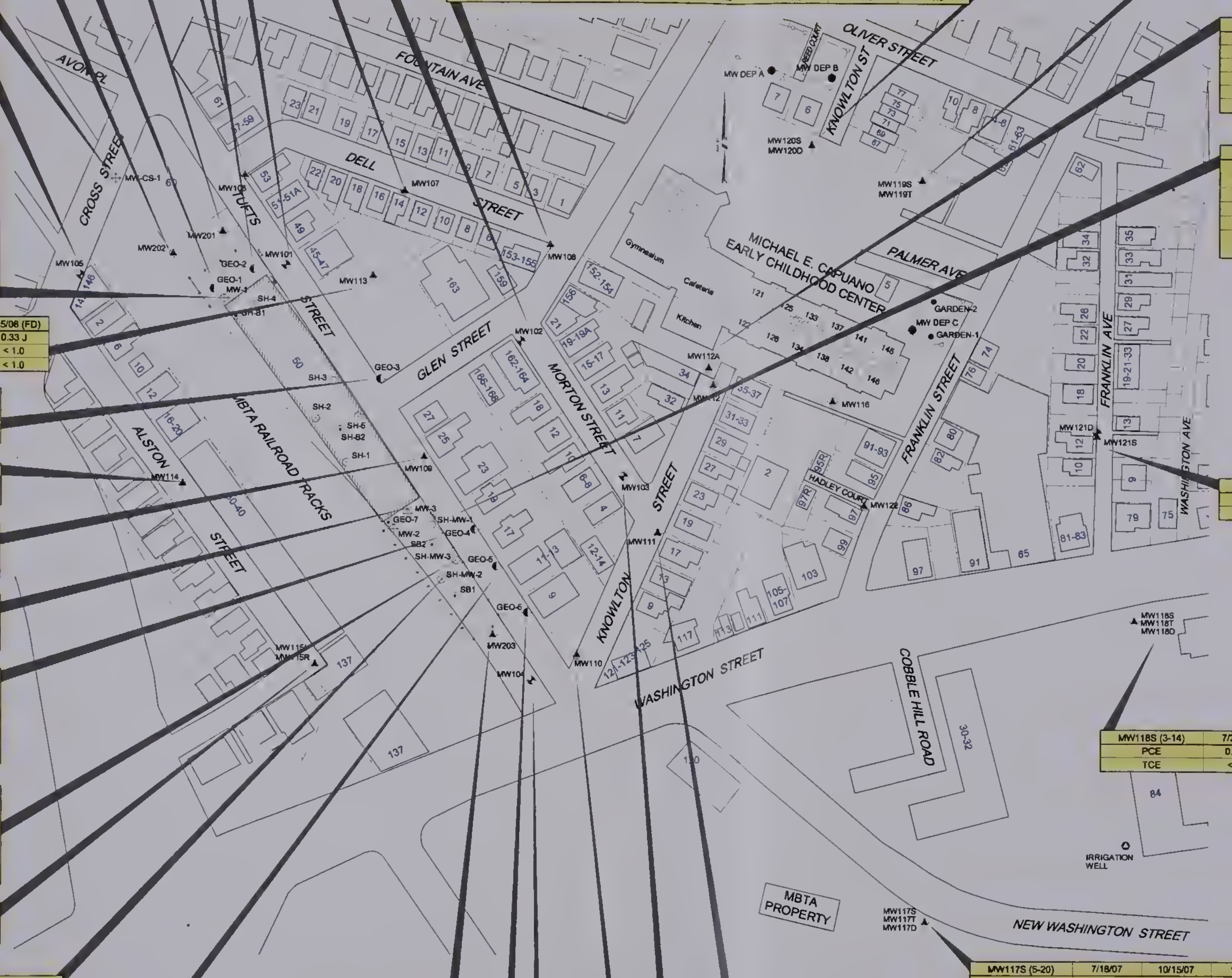
MW118S (3-14)	7/20/07	8/30/07	10/11/07	1/11/08	4/16/08
PCE	0.39 J	< 1.0	< 1.0	< 1.0	< 1.0
TCE	< 1.0	< 1.0	< 1.0	< 1.0	<1.0

MW117S (5-20)	7/18/07	10/15/07	1/11/08	4/16/08
PCE	< 1.0	< 1.0	< 1.0	< 1.0
TCE	< 1.0	< 1.0	<1.0	<1.0

MW111 (4-14)	1/18/07	4/18/07	7/18/07	10/10/07	1/10/08	4/17/08
DCA, 1,1-	30.9	15.7 J	16.6	16.1 J	5.8	4.3 C+
DCA, 1,2-	< 10	< 25	0.43 J	< 50	< 1.0	< 2.0
DCE, 1,1-	17.8	< 25	10.5	< 50	4.1	3.7 C+
DCE, cis-1,2-	22.6	17.2 J	56.3	63.9	10.8	4.4 C+
DCA, trans,1,2-	< 10	< 25	1.8	< 50	< 1.0	< 2.0
PCE	13700 F-	7370	6340	8350	3100	1160 C+
TCA, 1,1,1-	142	56.5	66.1	84.1	41.3	17.8 C+
TCE	150	84.4	120	125	42.1	19.6 C+

MW103 (6-16)	5/24/06	8/7/06	10/5/06	1/16/07	1/16/07	4/13/07
DCA, 1,1-	27.2	3.7	13.0	11.8	10.1	7.6
DCE, 1,1-	13.4	2.0	8.5	4.3	4.3	8.0
PCE	2600	592	1510	1200 F+	1250 F-	1510
TCE	109	24	60.4	37	38	58.7

MW110 (3-13)	1/18/07	4/17/07
PCE	0.89 J/F-	0.93 J
TCE	< 1.0	< 1.0



LEGEND:

▲	MONITORING WELL WITH SOIL VAPOR SAMPLE PORT INSTALLED BY GEI, JANUARY 2007 - JANUARY 2008
	MONITORING WELL INSTALLED BY SANBORN HEAD ASSOCIATES, 2002
◐	MONITORING WELL INSTALLED BY GEOINSIGHT, JUNE 2004
•	SOIL BORING ADVANCED BY GEOINSIGHT, AUGUST 2004
◕	MONITORING WELL INSTALLED BY GEI, MAY 2006
●	DRIVEN POINT MONITORING WELL INSTALLED BY MADEP, MAY 2007
↕	MONITORING WELL INSTALLED PREVIOUSLY, DATE UNKNOWN
△	PREVIOUSLY INSTALLED IRRIGATION WELL
- · - ·	CHAIN LINK FENCE
138	ROOM NUMBER AT CAPUANO SCHOOL
	BOUNDARY OF COMMUNITY GARDENS
84	STREET ADDRESS
	MBTA = MASSACHUSETTS BAY TRANSPORTATION AUTHORITY

LABORATORY DATA TABLE NOTES

1. CONCENTRATIONS ARE REPORTED IN MICROGRAMS PER LITER.
2. CONCENTRATIONS OF PCE AND TCE ARE SHOWN FOR EACH WELL. CONCENTRATIONS OF RELATED CHLORINATED COMPOUNDS ARE ALSO SHOWN WHERE DETECTED.
3. PCE = TETRACHLOROETHYLENE.
4. TCE = TRICHLOROETHYLENE.
5. DCA,1,1 = DICHLOROETHANE,1,1-.
6. DCE,1,1 = DICHLOROETHYLENE,1,1-.
7. DCE,CIS-1,2 = DICHLOROETHYLENE, CIS-1,2-.
8. DCE,TRANS,1,2 = DICHLOROETHYLENE, TRANS,-1,2-.
9. DCA1,2 = DICHLOROETHANE,1,2-.
10. TCA 1,1,1 = TRICHLOROETHANE,1,1,1-.
11. TCA 1,1,2 = TRICHLOROETHANE,1,1,2-.
12. E = THE REPORTED VALUE IS ESTIMATED; REPORTED FROM UNDILUTED SAMPLE RUN DUE TO SAMPLE NON-HOMOGENEITY.
13. F+ = THE RESULT HAS A HIGH BIAS DUE TO MATRIX SPIKE RECOVERY ABOVE UPPER CONTROL LIMITS.
14. F- = THE RESULT HAS A LOW BIAS DUE TO MATRIX SPIKE RECOVERY BELOW LOWER CONTROL LIMITS.
15. G = THE RESULT IS ESTIMATED DUE TO DUPLICATE PRECISION OUTSIDE THE CONTROL LIMITS.
16. H = THE RESULTS HAS A HIGH BIAS DUE TO CALIBRATION VENTICATION STANDARD RECOVERY ABOVE THE UPPER CONTROL LIMITS.
17. J = THE RESULT IS BELOW LABORATORY DETECTION LIMITS AND IS ESTIMATED.
18. J+ = THE REPORTED RESULT IS ESTIMATED
19. T = THE REPORTED VALUE IS ESTIMATED DUE TO CONTINUING CALIBRATION CHECK STANDARD PERCENT DIFFERENCE OUTSIDE OF CONTROL LIMITS.
20. FD = FIELD DUPLICATE.
21. DRY = THE WATER COLUMN IN THE WELL WAS INSUFFICIENT TO OBTAIN A SAMPLE FOR CHEMICAL TESTING.
22. VALUES IN PARENTHESES ADJACENT TO THE WELL NAME REPRESENT THE SCREENED INTERVAL OF THE WELL IN FEET BELOW GROUND SURFACE.

GENERAL NOTES

1. HORIZONTAL CONTROL FOR THIS PLAN WAS ESTABLISHED BY GPS AND IS BASED ON THE NORTH AMERICAN DATUM OF 1983.
2. STREET AND PROPERTY LINES BASED ON SOMERVILLE ASSESSORS' MAPS AND ARE BEST FIT RELATIVE TO THE LOCATION OF THE 50 TUFTS ST. BUILDING.
3. CAPUANO CENTER BUILDING IS BASED ON DRAWING A0.2 FROM THE ARCHITECTURAL BID SET OF "THE EDGERTY EARLY CHILDHOOD DEVELOPMENT CENTER" BY HMFH ARCHITECTS, INC., DATED AUGUST 10, 2001.
4. MONITORING WELL LOCATIONS AND ELEVATIONS, AND CAPUANO CENTER COMMUNITY GARDEN LOCATIONS WERE ESTABLISHED BY ON THE GROUND SURVEYS BY BSC GROUP, INC.
5. GEI OBSERVED ABANDONMENT OF SH-MW1 AND SH-1 THROUGH SH-5 IN 2007.
6. REFER TO THE TEXT OF THIS REPORT FOR SAMPLING DATES.

Phase II CSA and Phase III RAP
50 Tufts Street
Somerville, Massachusetts

UniFirst Corporation
Wilmington, Massachusetts

GEI Consultants

SHALLOW OVERBURDEN
GROUNDWATER
LABORATORY TESTING RESULTS

Project 04516-2 | July 2008 | Fig. 5-4

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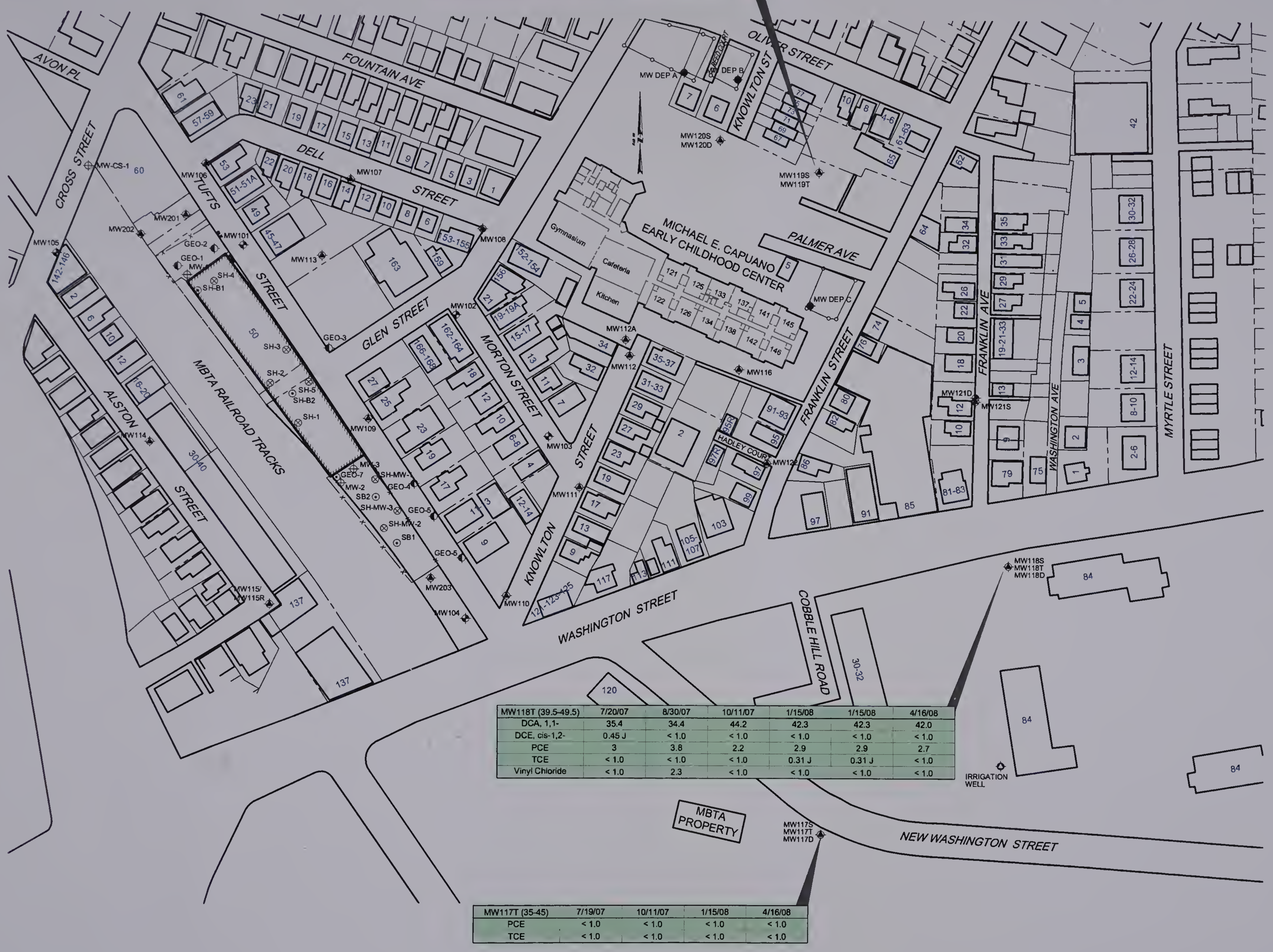
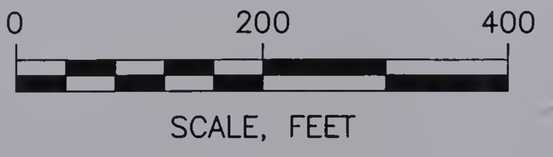
MW119T (42-47)	8/22/07	10/12/07	1/16/08	4/16/08
DCA, 1,1-	10.4 J+	11	10.9	10.4
DCE, 1,1-	2.0 J+	6.4	6.0	6.2
DCE, cis-1,2-	0.54 J+	1.2	1.1	1.2
PCE	94.3 J+	105	85	86.3
TCA, 1,1,1-	< 1.0	0.69 J	0 52 J	< 1.0
TCE	25.9 J+	29.6	26.7	26.8



MW118T (39.5-49.5)	7/20/07	8/30/07	10/11/07	1/15/08	1/15/08	4/16/08
DCA, 1,1-	35.4	34.4	44.2	42.3	42.3	42.0
DCE, cis-1,2-	0.45 J	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
PCE	3	3.8	2.2	2.9	2.9	2.7
TCE	< 1.0	< 1.0	< 1.0	0.31 J	0.31 J	< 1.0
Vinyl Chloride	< 1.0	2.3	< 1.0	< 1.0	< 1.0	< 1.0

MW117T (35-45)	7/19/07	10/11/07	1/15/08	4/16/08
PCE	< 1.0	< 1.0	< 1.0	< 1.0
TCE	< 1.0	< 1.0	< 1.0	< 1.0



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⊕	MONITORING WELL INSTALLED PREVIOUSLY, DATE UNKNOWN
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—x—x—	CHAIN LINK FENCE
138	ROOM NUMBER AT CAPUANO SCHOOL
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4. TCE = TRICHLOROETHYLENE.
5. DCA,1,1 = DICHLOROETHANE,1,1-.
6. DCE,1,1 = DICHLOROETHYLENE,1,1-.
7. DCE,CIS-1,2 = DICHLOROETHYLENE, CIS-1,2-.
8. TCA 1,1,1 = TRICHLOROETHANE,1,1,1-.
9. < = THE ANALYTE WAS NOT DETECTED AT A CONCENTRATION ABOVE THE REPORTING LIMIT.
10. J = THE RESULT IS BELOW LABORATORY REPORTING LIMIT AND IS ESTIMATED.
11. J+ = THE RESULT IS ESTIMATED BASED ON DATA VALIDATION
12. VALUES IN PARENTHESES ADJACENT TO THE WELL NAME REPRESENT THE SCREENED INTERVAL OF THE WELL IN FEET BELOW GROUND SURFACE.

GENERAL NOTES

1. HORIZONTAL CONTROL FOR THIS PLAN WAS ESTABLISHED BY GPS AND IS BASED ON THE NORTH AMERICAN DATUM OF 1983.
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3. CAPUANO CENTER BUILDING IS BASED ON DRAWING A0.2 FROM THE ARCHITECTURAL BID SET OF "THE EDGERTY EARLY CHILDHOOD DEVELOPMENT CENTER" BY HMFH ARCHITECTS, INC., DATED AUGUST 10, 2001.
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UniFirst Corporation
Wilmington, Massachusetts

GEI Consultants

DEEP OVERBURDEN
GROUNDWATER LABORATORY
TESTING RESULTS

Project 04516-2
July 2008
Fig. 5-5

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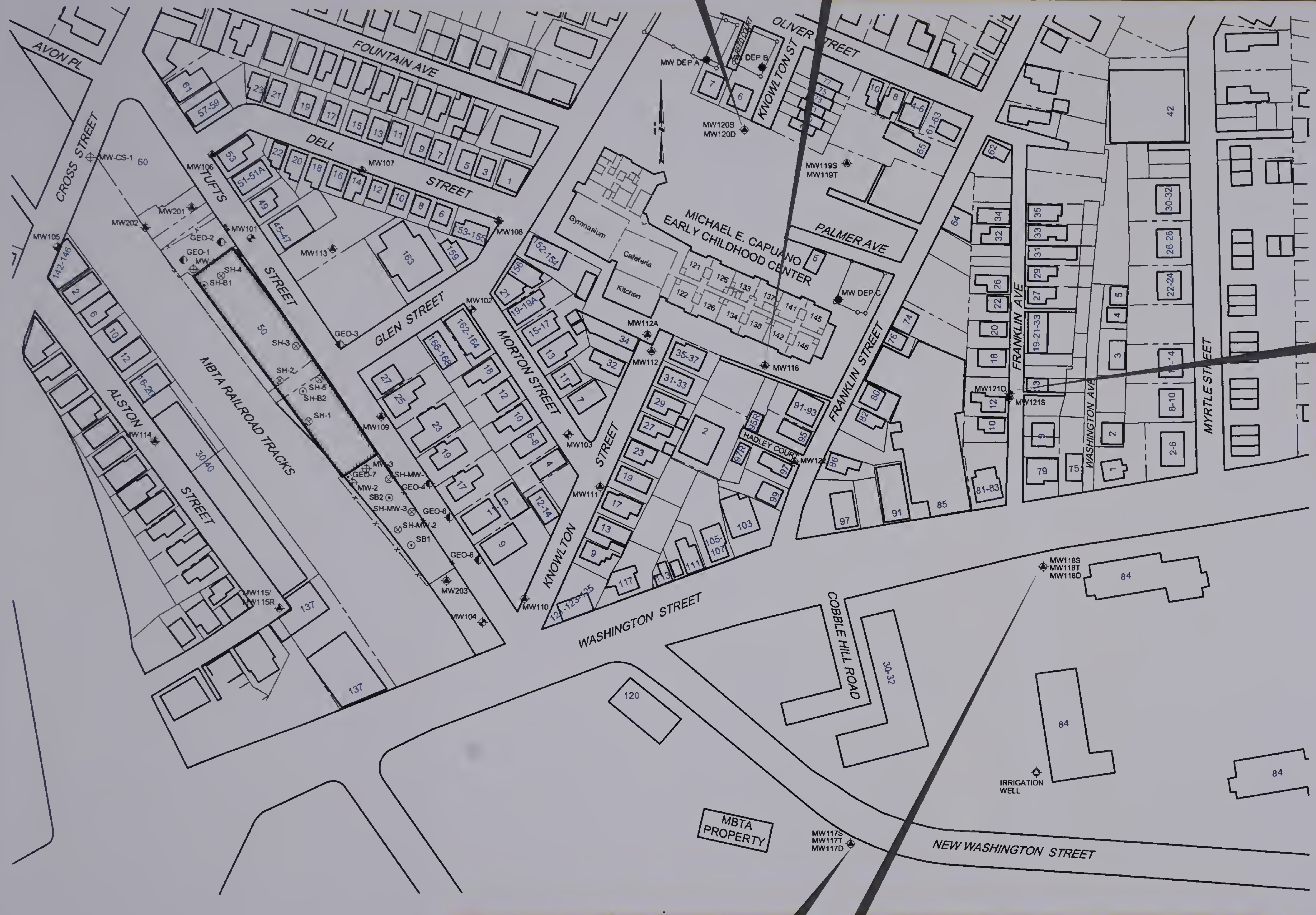
MW120D (28-38)	8/22/07	10/12/07	1/17/08	4/16/08
DCA, 1,1-	23 J+	26	23.2	30.8
DCE, 1,1-	15.6 J+	18.9	14.3	17.8
DCE, cis-1,2-	0.70 J	< 1.0	1.7	1.9
PCE	93.5 J+	120	113	131
TCA, 1,1,1-	10.3 J+	4 3	3.2	< 1.0
TCE	32.6	40.1	34.7	43.4

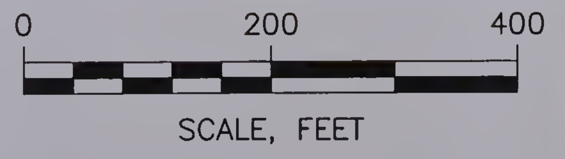
MW116 (5-15)	3/23/07	4/13/07	7/18/07	7/18/07 (FD)	10/12/07	10/12/07 (FD)	1/11/08	1/11/08 (FD)	4/15/08	4/15/08 (FD)
Chloroethane	< 2.0	< 2.0	2.4	2.3	2.4 J	2.3	< 2.0	< 2.0	< 2.0	< 2.0
DCA, 1,1-	135	4.4	97.3	96.9	80.1	96 9	18.9	15.8	66.8	64.5
DCE, 1,1-	107	2.7	33.8	34	24.8	34	14 7	11.8	48.3	45.7
DCE, cis-1,2-	103	21.7	415	431	348	431	49.5	42.9	105	102
DCE, trans-1,2-	1.8	< 1.0	4.3	4.4	2.5	4.4	0.88 J	1.3	< 1.0	< 1.0
PCE	1180	32.2	167	168	118	168	287	257	603	607
TCA, 1,1,1-	21.6	0.67 J	10.6	10.7	9.4	10.7	3.3	2.5	10.7	10.7
TCE	358	19.4	72.7	73.2	136	73.2	66.3	53.6	175	174
Vinyl chloride	14.1	3.2	185	182	84.9	182	3.1	2.3	2.6	2.7



MW121D (32-47)	10/22/07	1/15/08	4/17/08
DCA, 1,1-	46.3	55.3	46.6
DCE, cis-1,2-	3.9	11.8	6.4
DCE, 1,1-	13.2	11.8	16.7
DCE, trans-1,2	< 1.0	0.70 J	< 1.0
PCE	182	258	177
TCA, 1,1,1-	1.2	1.3	1.2
TCE	59.6	136	68.8
Vinyl Chloride	0.39 J	< 1.0	< 1.0

MW117D (60-70)	7/19/07	10/11/07	1/15/08	4/16/08
PCE	0.54 J	< 1.0	< 1.0	< 1.0
TCE	< 1.0	< 1.0	< 1.0	< 1.0

MW118D (70-80)	7/20/07	8/30/07	10/11/07	1/16/08	4/16/08
DCA, 1,1-	20.3	21.4	31.2	31.7	33.3
DCE, cis-1,2-	0.55 J	< 1.0	< 1.0	< 1.0	< 1.0
PCE	7.0	8.4	8.2	6.1	5.7
TCE	1.2	3.9	1.8	0.94 J	1.0
Vinyl Chloride	< 1.0	2.4	< 1.0	< 1.0	< 1.0



LEGEND:

◈	MONITORING WELL WITH SOIL VAPOR SAMPLE PORT INSTALLED BY GEI, JANUARY 2007 - JANUARY 2008
⊗	MONITORING WELL INSTALLED BY SANBORN HEAD ASSOCIATES, 2002
◐	MONITORING WELL INSTALLED BY GEOINSIGHT, JUNE 2004
⊙	SOIL BORING ADVANCED BY GEOINSIGHT, AUGUST 2004
⊕	MONITORING WELL INSTALLED BY GEI, MAY 2006
●	DRIVEN POINT MONITORING WELL INSTALLED BY MADEP, MAY 2007
⊕	MONITORING WELL INSTALLED PREVIOUSLY, DATE UNKNOWN
△	PREVIOUSLY INSTALLED IRRIGATION WELL
—x——x—	CHAIN LINK FENCE
138	ROOM NUMBER AT CAPUANO SCHOOL
▱	BOUNDARY OF COMMUNITY GARDENS
84	STREET ADDRESS
	MBTA = MASSACHUSETTS BAY TRANSPORTATION AUTHORITY

LABORATORY DATA TABLE NOTES

1. CONCENTRATIONS ARE REPORTED IN MICROGRAMS PER LITER.
2. CONCENTRATIONS OF PCE AND TCE ARE SHOWN FOR EACH WELL. CONCENTRATIONS OF RELATED CHLORINATED COMPOUNDS ARE ALSO SHOWN WHERE DETECTED.
3. PCE = TETRACHLOROETYLHENE.
4. TCE = TRICHLOROETHYLENE.
5. DCA,1,1 = DICHLOROETHANE,1,1-.
6. DCE,1,1 = DICHLOROETHYLENE,1,1-.
7. DCE,CIS-1,2 = DICHLOROETHYLENE, CIS-1,2-.
8. TCA 1,1,1 = TRICHLOROETHANE,1,1,1-.
9. DCE, TRANS, 1,2 = DICHLOROETHYLENE, TRANS, 1,2-.
10. < = THE ANALYTE WAS NOT DETECTED AT A CONCENTRATION ABOVE THE REPORTING LIMIT.
11. J = THE RESULT IS BELOW LABORATORY REPORTING LIMIT AND IS ESTIMATED.
12. J+ = THE RESULT IS ESTIMATEDBASED ON DATA VALIDATION.
13. VALUES IN PARENTHESES ADJACENT TO THE WELL NAME REPRESENT THE SCREENED INTERVAL OF THE WELL IN FEET BELOW GROUND SURFACE.

GENERAL NOTES

1. HORIZONTAL CONTROL FOR THIS PLAN WAS ESTABLISHED BY GPS AND IS BASED ON THE NORTH AMERICAN DATUM OF 1983.
2. STREET AND PROPERTY LINES BASED ON SOMERVILLE ASSESSORS' MAPS AND ARE BEST FIT RELATIVE TO THE LOCATION OF THE 50 TUFTS ST. BUILDING.
3. CAPUANO CENTER BUILDING IS BASED ON DRAWING A0.2 FROM THE ARCHITECTURAL BID SET OF "THE EDGERTY EARLY CHILDHOOD DEVELOPMENT CENTER" BY HMFH ARCHITECTS, INC., DATED AUGUST 10, 2001.
4. MONITORING WELL LOCATIONS AND ELEVATIONS, AND CAPUANO CENTER COMMUNITY GARDEN LOCATIONS WERE ESTABLISHED BY ON THE GROUND SURVEYS BY BSC GROUP, INC.
5. GEI OBSERVED ABANDONMENT OF SH-MW1 AND SH-1 THROUGH SH-5 IN 2007.

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BEDROCK
GROUNDWATER LABORATORY
TESTING RESULTS

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Fig. 5-6

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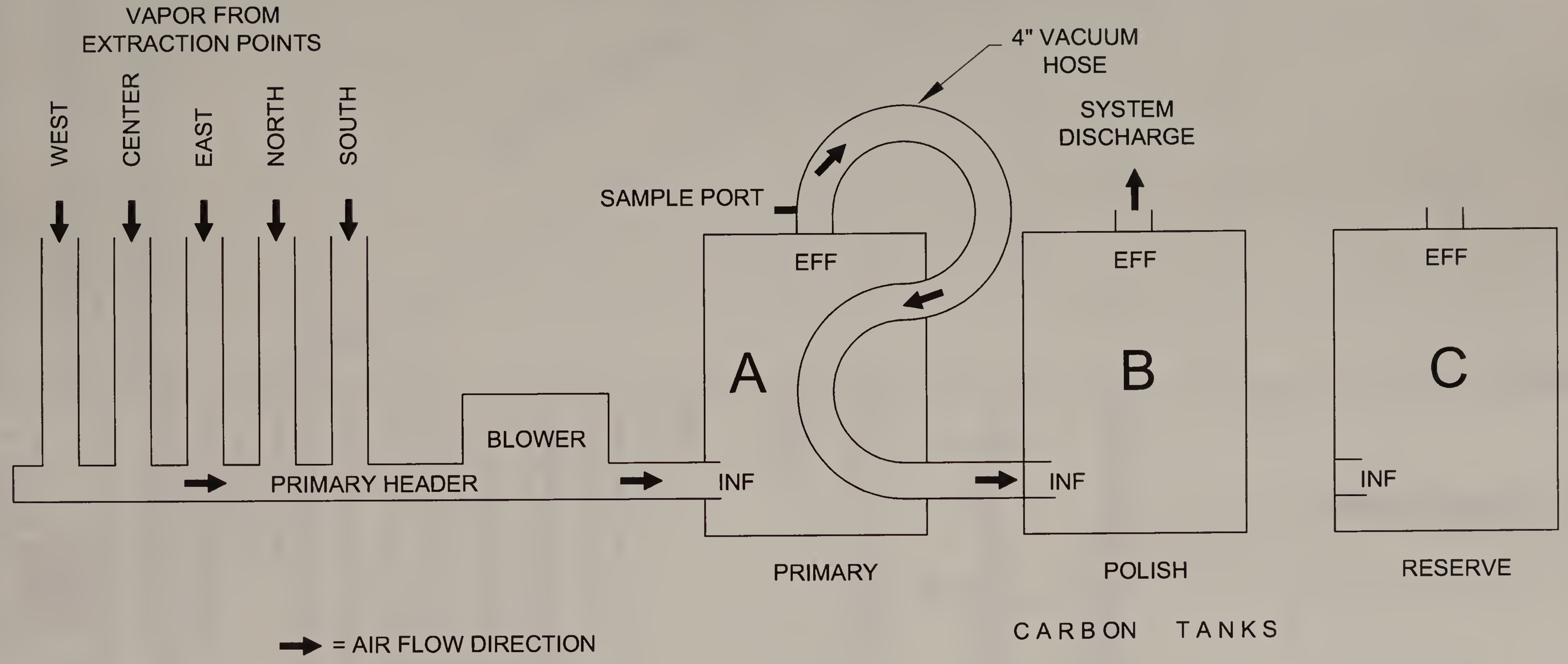

NOT TO SCALE

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50 TUFTS STREET
CARBON TREATMENT
SYSTEM CONFIGURATION

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Fig. 6-1

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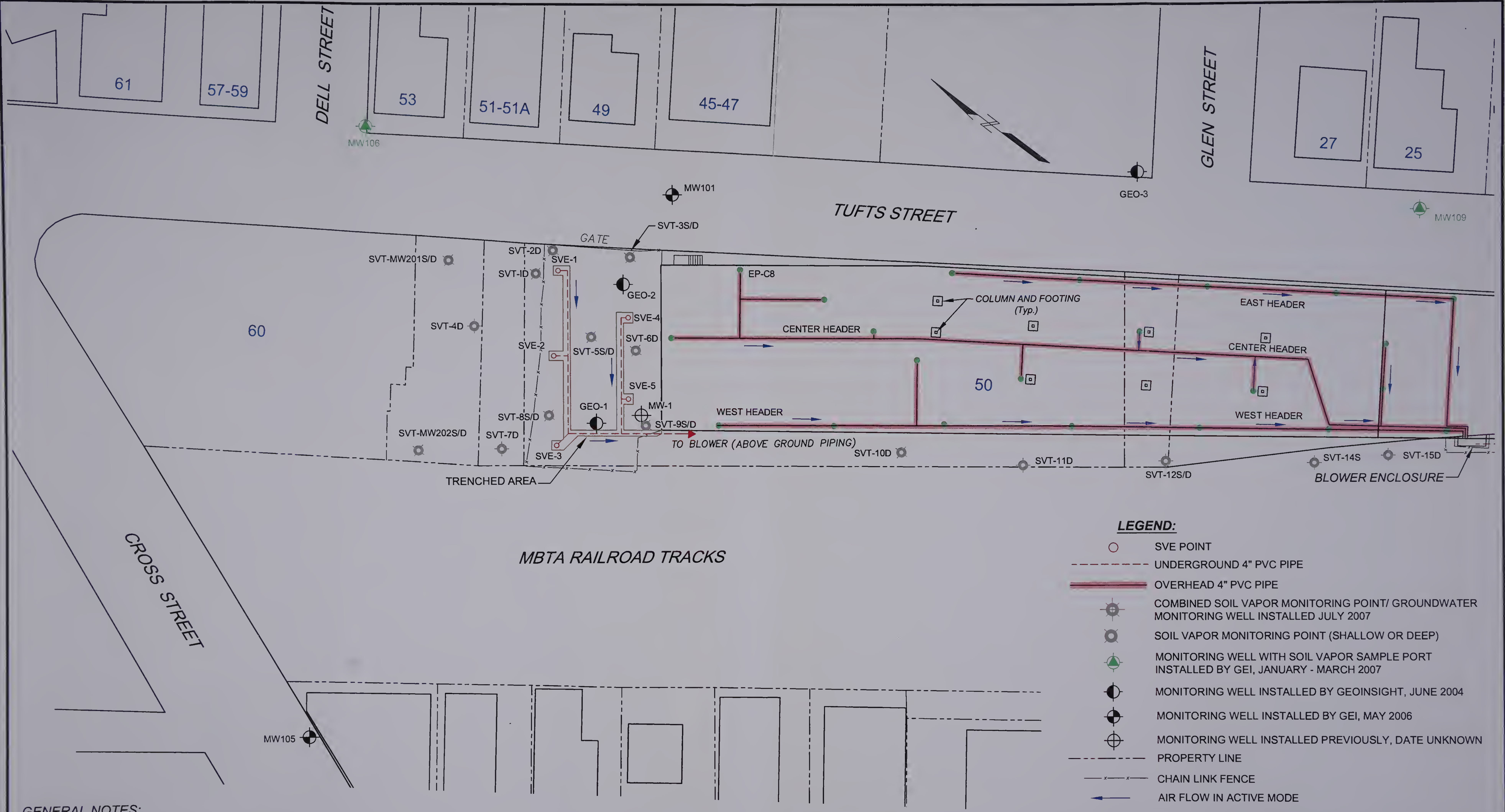

LEGEND:

○	SVE POINT
- - - -	UNDERGROUND 4" PVC PIPE
━━	OVERHEAD 4" PVC PIPE
⊕	COMBINED SOIL VAPOR MONITORING POINT/ GROUNDWATER MONITORING WELL INSTALLED JULY 2007
◎	SOIL VAPOR MONITORING POINT (SHALLOW OR DEEP)
▲	MONITORING WELL WITH SOIL VAPOR SAMPLE PORT INSTALLED BY GEI, JANUARY - MARCH 2007
◐	MONITORING WELL INSTALLED BY GEOINSIGHT, JUNE 2004
⊕	MONITORING WELL INSTALLED BY GEI, MAY 2006
⊕	MONITORING WELL INSTALLED PREVIOUSLY, DATE UNKNOWN
— - —	PROPERTY LINE
—x—x—	CHAIN LINK FENCE
←	AIR FLOW IN ACTIVE MODE
●	SUB-SLAB EXTRACTION POINT (2" DIA. SCHEDULE 40 PVC)

GENERAL NOTES:

1. HORIZONTAL CONTROL FOR THIS PLAN WAS ESTABLISHED BY GPS AND IS BASED ON THE NORTH AMERICAN DATUM OF 1983.
2. BUILDINGS, STREET, AND PROPERTY LINES BASED ON SOMERVILLE ASSESSORS MAPS AND ARE BEST FIT RELATIVE TO THE LOCATION OF THE 50 TUFTS ST. BUILDING.
3. MONITORING WELL LOCATIONS AND ELEVATIONS WERE ESTABLISHED ON THE GROUND SURVEYS BY BSC GROUP, INC.

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SOIL VAPOR MONITORING and EXTRACTION POINTS
(Northern Parking Lot and 60 Tufts Street)

Project 04516-2 | July 2008 | Fig. 6-2a

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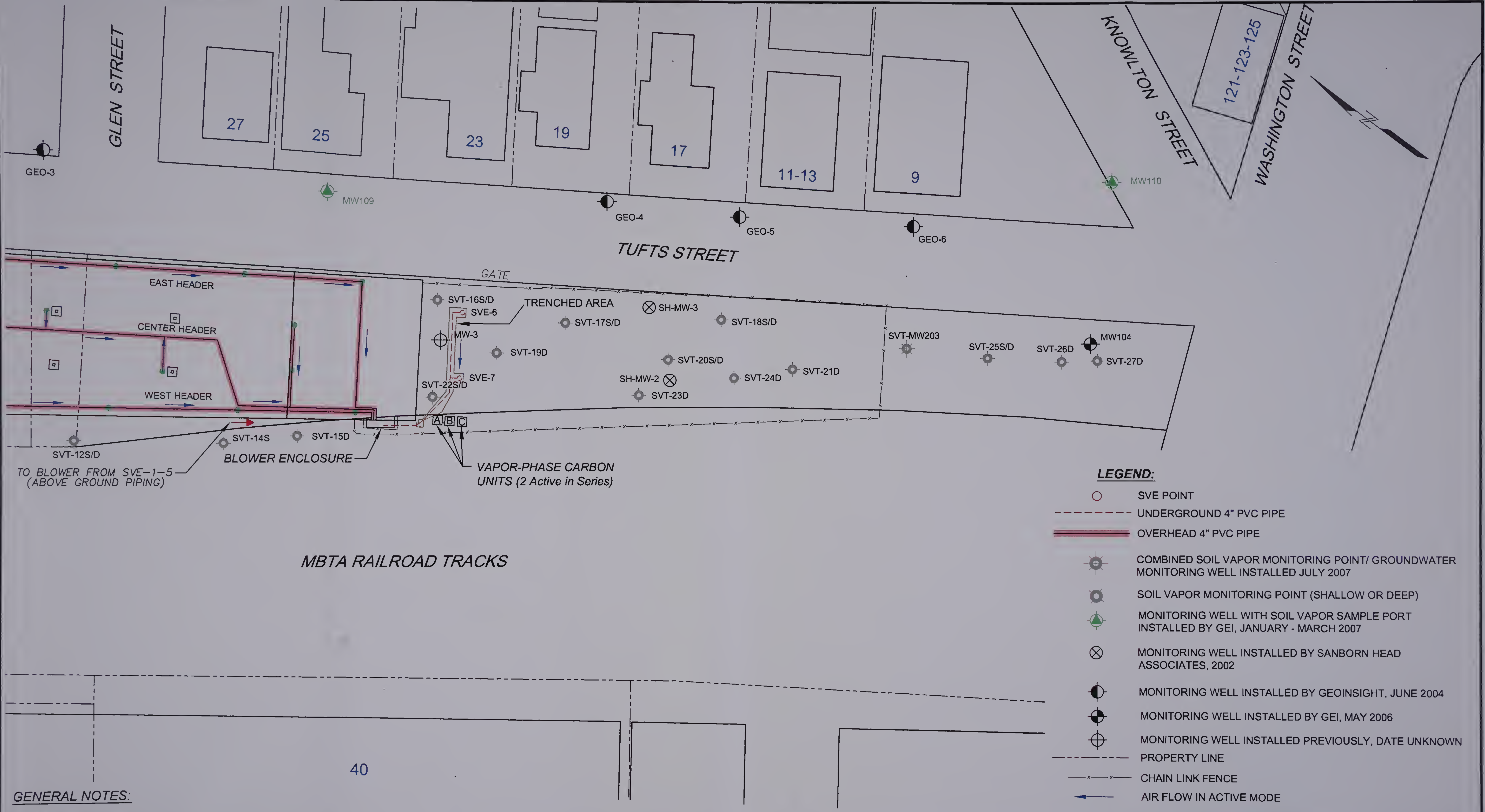

LEGEND:

○	SVE POINT
- - - -	UNDERGROUND 4" PVC PIPE
═	OVERHEAD 4" PVC PIPE
⊕	COMBINED SOIL VAPOR MONITORING POINT/ GROUNDWATER MONITORING WELL INSTALLED JULY 2007
⊙	SOIL VAPOR MONITORING POINT (SHALLOW OR DEEP)
▲	MONITORING WELL WITH SOIL VAPOR SAMPLE PORT INSTALLED BY GEI, JANUARY - MARCH 2007
⊗	MONITORING WELL INSTALLED BY SANBORN HEAD ASSOCIATES, 2002
◐	MONITORING WELL INSTALLED BY GEOINSIGHT, JUNE 2004
◑	MONITORING WELL INSTALLED BY GEI, MAY 2006
⊕	MONITORING WELL INSTALLED PREVIOUSLY, DATE UNKNOWN
- - -	PROPERTY LINE
—x—x—	CHAIN LINK FENCE
←	AIR FLOW IN ACTIVE MODE
●	SUB-SLAB EXTRACTION POINT (2" DIA. SCHEDULE 40 PVC)

GENERAL NOTES:

1. HORIZONTAL CONTROL FOR THIS PLAN WAS ESTABLISHED BY GPS AND IS BASED ON THE NORTH AMERICAN DATUM OF 1983.
2. BUILDINGS, STREET, AND PROPERTY LINES BASED ON SOMERVILLE ASSESSORS MAPS AND ARE BEST FIT RELATIVE TO THE LOCATION OF THE 50 TUFTS ST. BUILDING.
3. MONITORING WELL LOCATIONS AND ELEVATIONS WERE ESTABLISHED ON THE GROUND SURVEYS BY BSC GROUP, INC.

0 40 80
SCALE, FEET

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SOIL VAPOR MONITORING and EXTRACTION POINTS
(Southern Parking Lot)

Project 04516-2 | July 2008 | Fig. 6-2b

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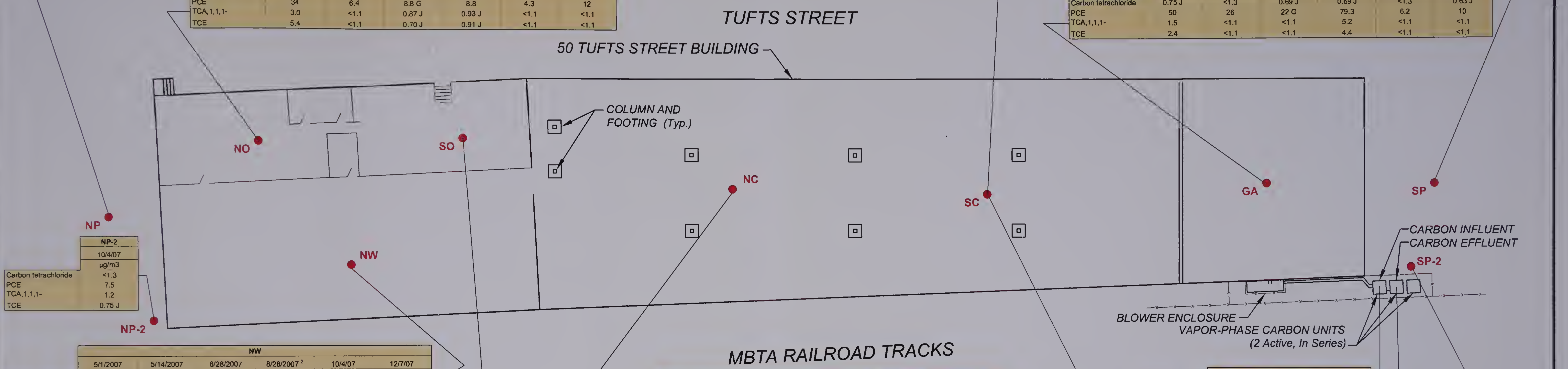
	NP					
	5/1/2007	5/14/2007	6/28/2007	8/28/2007 2	10/4/07	12/7/07
	µg/m3	µg/m3	µg/m3	µg/m3	µg/m3	µg/m3
Carbon tetrachloride	0.75 J	<1.3	<1.3	0.63 J	<1.3	0.69 J
PCE	1.8	7.5	12 G	14	3.9	2.2
TCA,1,1,1-	0.38 J	0.98 J	2.0	2.0	0.50 J	<1.1
TCE	< 1.1	< 0.64 J	1.6	1.6	<1.1	<1.1

	IA				
	5/1/2007	5/14/2007	6/28/2007	8/28/2007 2	12/7/07
	µg/m3	µg/m3	µg/m3	µg/m3	µg/m3
Carbon tetrachloride	0.69 J	0.63 J	<1.3	0.69 J	<1.3
PCE	8.1 P	6.8 P	10 GP	63	10
TCA,1,1,1-	1.2	<1.1	<1.1	4.4	<1.1
TCE	1.6	<1.1	<1.1	3.6	<1.1

	SP					
	5/1/2007	5/14/2007	6/28/2007	8/28/2007 2	10/4/07	12/7/07
	µg/m3	µg/m3	µg/m3	µg/m3	µg/m3	µg/m3
Carbon tetrachloride	0.69 J	0.63 J	<1.3	0.69 J	<1.3	0.75 J
PCE	3.7	2.8	1.8 G	160	1.3 J	2.0
TCA,1,1,1-	< 1.1	<1.1	<1.1	16	<1.1	<1.1
TCE	< 1.1	<1.1	<1.1	12	<1.1	<1.1

	NO					
	5/1/2007	5/14/2007	6/28/2007	8/28/2007 2	10/4/07	12/7/07
	µg/m3	µg/m3	µg/m3	µg/m3	µg/m3	µg/m3
Carbon tetrachloride	0.69 J	<1.3	0.61 J	0.63 J	<1.3	0.75 J
PCE	34	6.4	8.8 G	8.8	4.3	12
TCA,1,1,1-	3.0	<1.1	0.87 J	0.93 J	<1.1	<1.1
TCE	5.4	<1.1	0.70 J	0.91 J	<1.1	<1.1

	GA					
	5/1/2007	5/14/2007	6/28/2007	8/28/2007 2	10/4/07	12/7/07
	µg/m3	µg/m3	µg/m3	µg/m3	µg/m3	µg/m3
Carbon tetrachloride	0.75 J	<1.3	0.69 J	0.69 J	<1.3	0.63 J
PCE	50	26	22 G	79.3	6.2	10
TCA,1,1,1-	1.5	<1.1	<1.1	5.2	<1.1	<1.1
TCE	2.4	<1.1	<1.1	4.4	<1.1	<1.1



	NP-2
	10/4/07
	µg/m3
Carbon tetrachloride	<1.3
PCE	7.5
TCA,1,1,1-	1.2
TCE	0.75 J

	NW					
	5/1/2007	5/14/2007	6/28/2007	8/28/2007 2	10/4/07	12/7/07
	µg/m3	µg/m3	µg/m3	µg/m3	µg/m3	µg/m3
Carbon tetrachloride	0.75 J	<1.3	0.69 J	0.69 J	<1.3	0.63 J
PCE	33	11	15 G	45	12	12
TCA,1,1,1-	2.6	<1.1	0.60 J	4.0	<1.1	<1.1
TCE	4.1	<1.1	<1.1	2.8	<1.1	<1.1

	NC					
	5/1/2007	5/14/2007	6/28/2007	8/28/2007 2	10/4/07	12/7/07
	µg/m3	µg/m3	µg/m3	µg/m3	µg/m3	µg/m3
Carbon tetrachloride	0.75 J	<1.3	0.60 J	0.59 J	<1.3	0.63 J
PCE	47	30	16 G	69.2	5.5	10
TCA,1,1,1-	1.4	<1.1	<1.1	3.7	<1.1	<1.1
TCE	2.0	<1.1	<1.1	3.4	<1.1	<1.1

	Carbon Influent		
	5/1/2007	6/12/2007	3/13/2008
	µg/m3	µg/m3	µg/m3
DCE,1,1-	341	<950	<810
PCE	392000	347000 G	157000
TCA,1,1,1-	13700	12800	2460
TCE	15700	5800	2450

	SO					
	5/1/2007	5/14/2007	6/28/2007	8/28/2007 2	10/4/07	12/7/07
	µg/m3	µg/m3	µg/m3	µg/m3	µg/m3	µg/m3
Carbon tetrachloride	0.75 J	<1.3	0.69 J	0.61 J	<1.3	0.62 J
PCE	38	14	18 G	15	5.5	11
TCA,1,1,1-	1.9	<1.1	0.55 J	1.4	<1.1	<1.1
TCE	3.4	<1.1	0.81 J	1.4	<1.1	<1.1

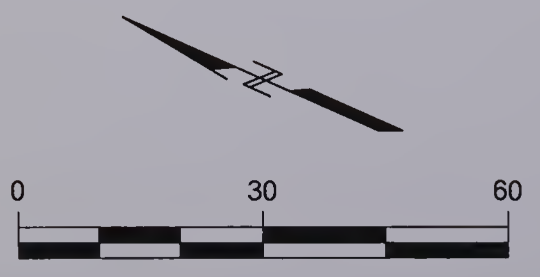
	Carbon Effluent	
	5/1/2007	6/12/2007
	µg/m3	µg/m3
DCE,1,1-	<0.79	513
PCE	<1.4	117
TCA,1,1,1-	<1.1	8780
TCE	<1.1	28

	SC								
	5/1/2007	5/14/2007	6/28/2007	8/28/2007 2	10/4/2007 (SC1)	10/4/07 (SC2)	10/4/2007 (SC3)	10/4/2007 (SC4)	12/7/07
	µg/m3	µg/m3	µg/m3	µg/m3	µg/m3	µg/m3	µg/m3	µg/m3	µg/m3
Carbon Tetrachloride	< 1.3	< 1.3	0.69 J	0.75 J	<1.3	<1.3	0.60 J	<1.3	<1.3
PCE	43 P	23 P	18 GP	66	6.0	5.9	5.7	5.4	11
TCA-1,1,1-	1.3	<1.1	0.50 J	4.7	<1.1	<1.1	<1.1	<1.1	<1.1
TCE	2.0	<1.1	<1.1	3.8	<1.1	<1.1	<1.1	<1.1	<1.1

	SP-2
	10/4/07
	µg/m3
Carbon tetrachloride	<1.3
PCE	9.5
TCA,1,1,1-	<1.1
TCE	<1.1

NOTES:

1. FIGURE BASED ON PLAN TITLED "INTERSTATE UNIFORM ADDN., TUFTS STREET SOMERVILLE, MASS." BY STRUCTURAL SYSTEMS, INC. DATED DECEMBER 2, 1976.
2. AUGUST 28, 2007 DATA WAS COLLECTED WHILE PCE CONTAMINATED SOIL FROM SVE INSTALLATION WAS STORED ON-SITE IN ROLL-OFF CONTAINERS.
3. ONLY DETECTED CHLORINATED VOCs ARE SHOWN HERE.
4. "ND" = NOT DETECTED.
5. J = THE REPORTED RESULT IS BELOW THE LABORATORY REPORTING LIMITS AND IS ESTIMATED.
6. G = THE REPORTED RESULT IS ESTIMATED DUE TO LABORATORY DUPLICATE PRECISION.
7. P = THE REPORTED RESULT IS ESTIMATED DUE TO FIELD DUPLICSTE PRECISION OUTSIDE CONTROL LIMITS.
8. "FD" = FIELD DUPLICATE
9. PCE = TETRACHLOROETHYLENE.
10. TCA 1,1,1 = TRICHLOROETHANE,1,1,1-.
11. TCE = TRICHLOROETHYLENE.
12. DCE,1,1 = DICHLOROETHYLENE,1,1-.



APPROXIMATE SCALE, FEET

LEGEND:

● GA	INDOOR AIR MONITORING LOCATION (3'-9" ABOVE SLAB)
GA	GARAGE AREA
NC	NORTH CENTRAL WAREHOUSE
NO	NORTH OFFICE
NP	NORTH PARKING LOT
NW	NORTH WAREHOUSE
SC	SOUTH CENTRAL WAREHOUSE
SO	SOUTH OFFICE
SP	SOUTH PARKING LOT
IA	INDOOR AIR DUPLICATE OF SC

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50 TUFTS STREET INDOOR AND OUTDOOR AIR LABORATORY TESTING RESULTS

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Fig. 6-3

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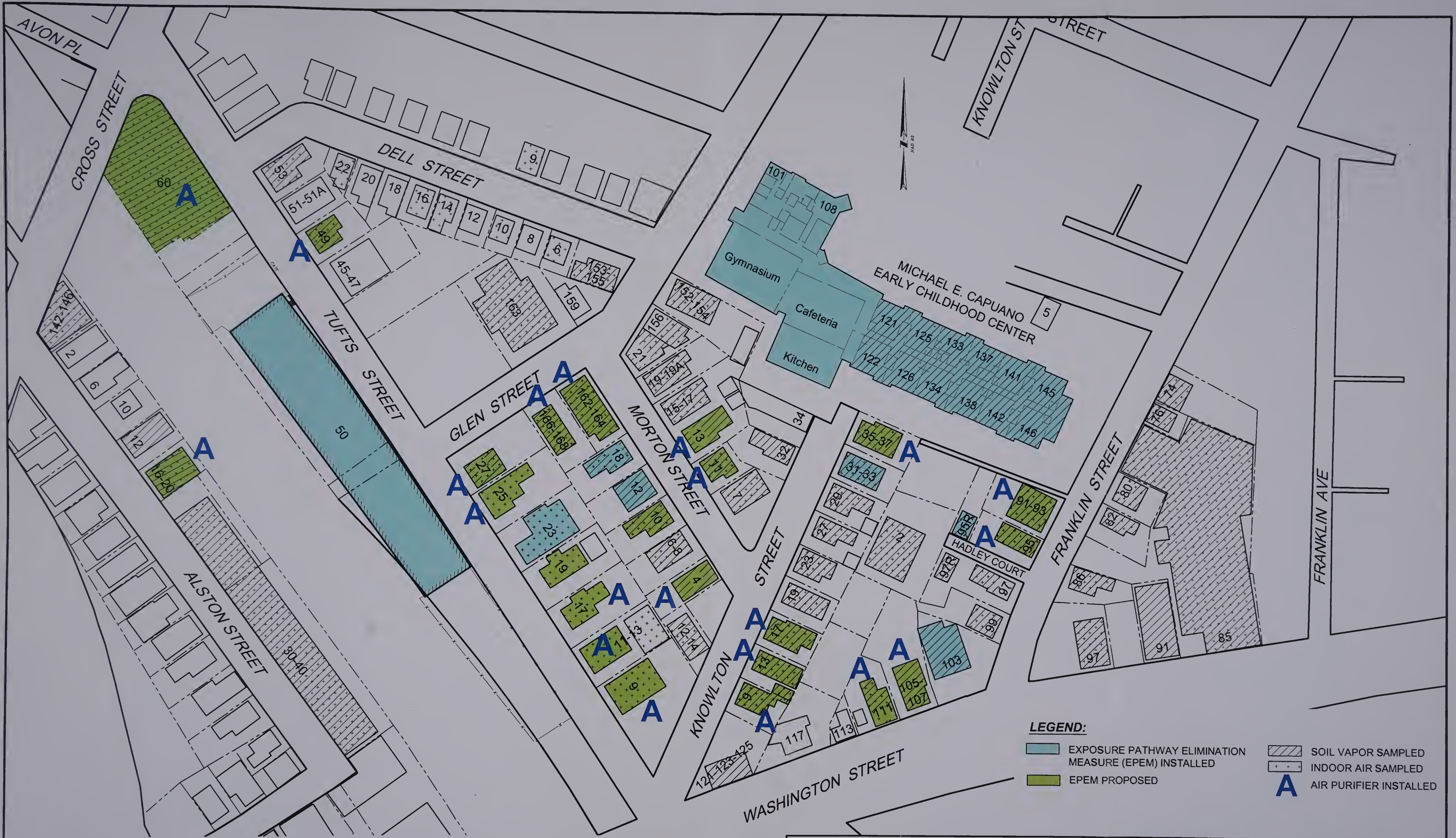

LEGEND:

🟦 EXPOSURE PATHWAY ELIMINATION MEASURE (EPEM) INSTALLED

🟩 EPEM PROPOSED

▨ SOIL VAPOR SAMPLED

⁙ INDOOR AIR SAMPLED

A AIR PURIFIER INSTALLED

NOTE:

THIS FIGURE SHOWS THE STATUS OF EPEM STUDY AREA PROPERTIES THROUGH MARCH 31, 2008.

0 100 200

SCALE, FEET

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EPEM STUDY AREA PROGRESS

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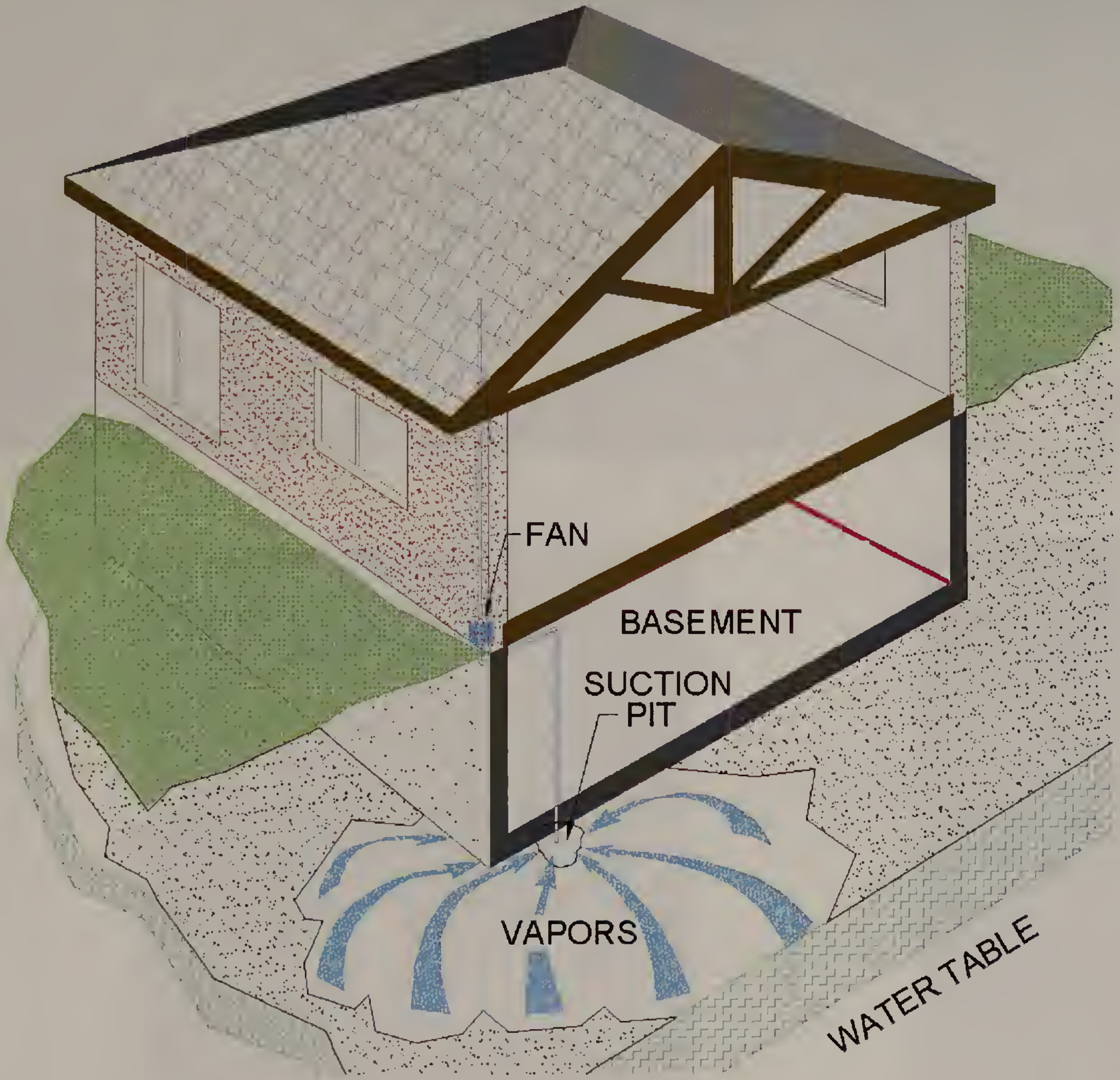
N:\04516\#Drafting\045160-2\Phase II CSA Phase III RAP\045162-21

Sub-Slab Depressurization



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SCHEMATIC OF
RESIDENTIAL SUB-SLAB
DEPRESSURIZATION SYSTEM

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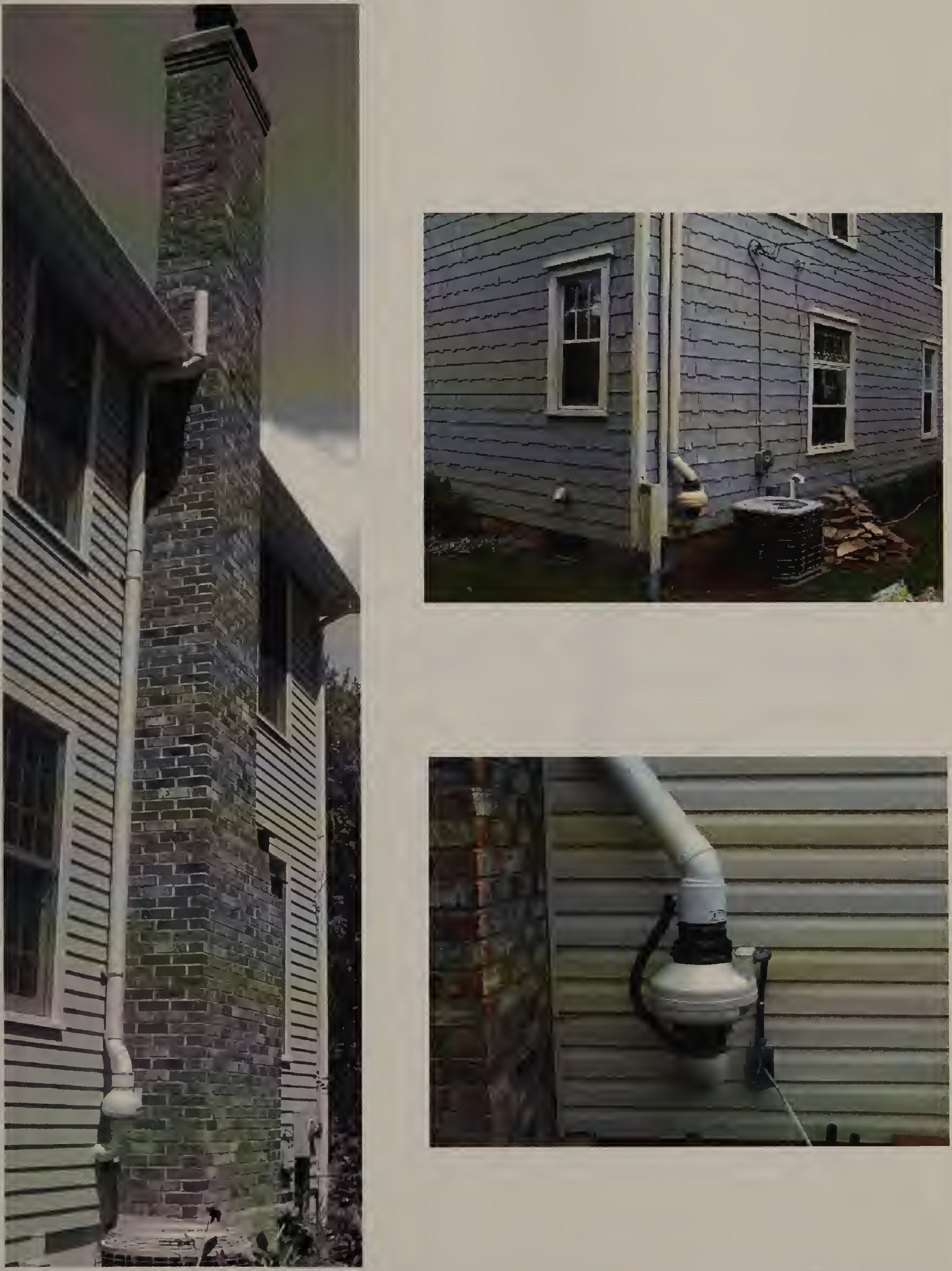
Fig. 7-2

N:\04516\#Drafting\045160-2\Phase II CSA Phase III RAP\045162-22



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PHOTOGRAPHS OF TYPICAL RESIDENTIAL EXTERIOR EXHAUST PIPING FOR SUB-SLAB DEPRESSURIZATION SYSTEM

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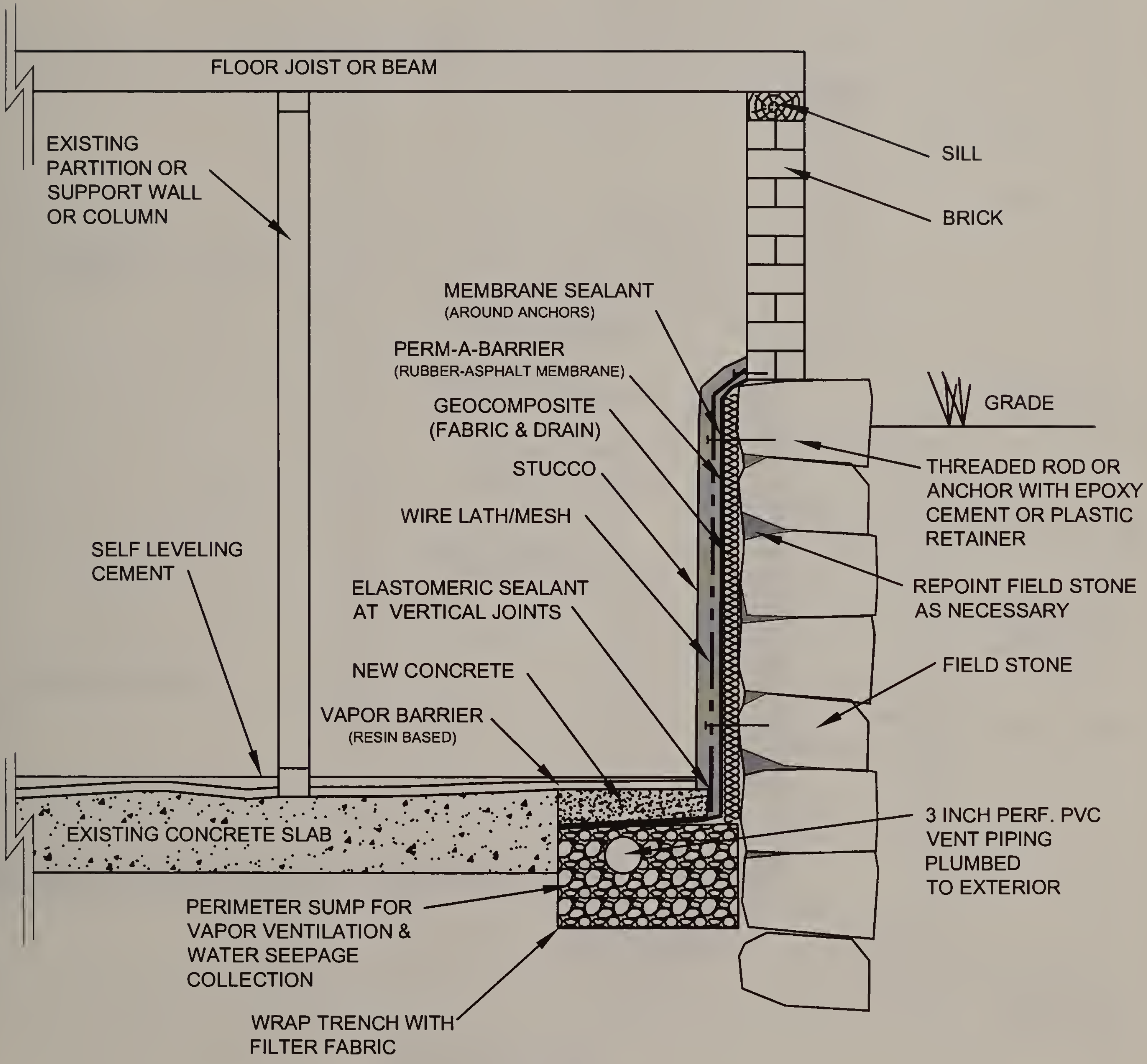
Fig. 7-3

N:\04516\#Drafting\045160-2\Phase II CSA Phase III RAP\045162-22


FLOOR JOIST OR BEAM
EXISTING PARTITION OR SUPPORT WALL OR COLUMN
SILL
BRICK
MEMBRANE SEALANT (AROUND ANCHORS)
PERM-A-BARRIER (RUBBER-ASPHALT MEMBRANE)
GEOCOMPOSITE (FABRIC & DRAIN)
GRADE
STUCCO
THREADED ROD OR ANCHOR WITH EPOXY CEMENT OR PLASTIC RETAINER
WIRE LATH/MESH
SELF LEVELING CEMENT
ELASTOMERIC SEALANT AT VERTICAL JOINTS
REPOINT FIELD STONE AS NECESSARY
NEW CONCRETE
FIELD STONE
VAPOR BARRIER (RESIN BASED)
EXISTING CONCRETE SLAB
3 INCH PERF. PVC VENT PIPING PLUMBED TO EXTERIOR
PERIMETER SUMP FOR VAPOR VENTILATION & WATER SEEPAGE COLLECTION
WRAP TRENCH WITH FILTER FABRIC

Not to Scale

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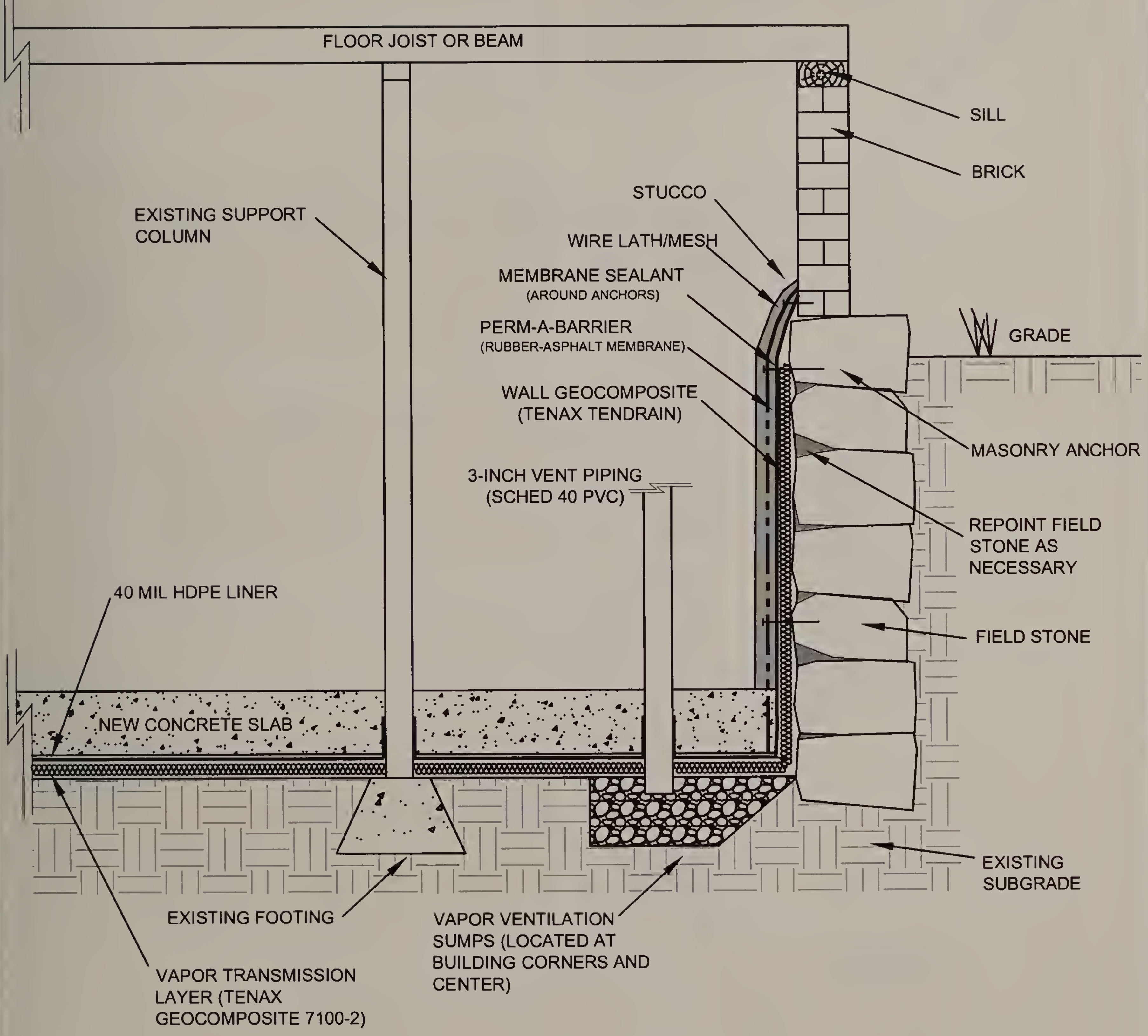
95R FRANKLIN STREET
EPEM OPTION 2
SCHEMATIC

Project 04516-2 | July 2008 | Fig. 7-4

N:\04516\#Drafting\045160-2\Phase II CSA Phase III RAP\045162-23


FLOOR JOIST OR BEAM
SILL
BRICK
STUCCO
EXISTING SUPPORT COLUMN
WIRE LATH/MESH
MEMBRANE SEALANT (AROUND ANCHORS)
PERM-A-BARRIER (RUBBER-ASPHALT MEMBRANE)
GRADE
WALL GEOCOMPOSITE (TENAX TENDRAIN)
MASONRY ANCHOR
3-INCH VENT PIPING (SCHED 40 PVC)
REPOINT FIELD STONE AS NECESSARY
40 MIL HDPE LINER
FIELD STONE
NEW CONCRETE SLAB
EXISTING SUBGRADE
EXISTING FOOTING
VAPOR VENTILATION SUMPS (LOCATED AT BUILDING CORNERS AND CENTER)
VAPOR TRANSMISSION LAYER (TENAX GEOCOMPOSITE 7100-2)

Not to Scale

Phase II CSA and Phase III RAP
50 Tufts Street
Somerville, Massachusetts

UniFirst Corporation
Wilmington, Massachusetts

GEI Consultants

12 MORTON STREET
EPEM OPTION 3
SCHEMATIC

Project 04516-2 | July 2008 | Fig. 7-5

N:\04516\#Drafting\045160-2\Phase II CSA Phase III RAP\045162-24

Analyte	Backyard of 14 Dell Street			
	045162-Dell-O-1A		045162-Dell-O-1B	
	1/22/07		1/23/07	
	ug/m^3	ppbV	ug/m^3	ppbV
Carbon Tetrachloride	0.69 J	0.11 J	0.75 J	0.12 J
PCE	< 1.4	< 0.20	< 1.4	< 0.20
TCE	< 1.1	< 0.20	< 1.1	< 0.20

Analyte	Capuano Center, Downwind from Blower Stack, on Roof																							
	150 GLEN-ROOF B		150 GLEN-ROOF B		150GLEN-ROOF		150 GLEN-ROOF		150 GLEN-ROOF		150GLEN-ROOF		150GLEN-ROOF		150GLEN-ROOF		150GLEN-ROOF		150GLEN-ROOF		150GLEN-ROOF		150GLEN-ROOF	
	2/8/2007		2/6/2007		3/8/2007		4/20/2007		5/17/2007		8/9/2007		9/10/2007		10/14/2007		11/14/2007		12/17/2007		1/21/2008		2/19/2008	
	$\mu g/m^3$	ppbv	$\mu g/m^3$	ppbv	$\mu g/m^3$	ppbv	$\mu g/m^3$	ppbv	$\mu g/m^3$	ppbv	$\mu g/m^3$	ppbv	$\mu g/m^3$	ppbv	$\mu g/m^3$	ppbv	$\mu g/m^3$	ppbv	$\mu g/m^3$	ppbv	$\mu g/m^3$	ppbv	$\mu g/m^3$	ppbv
Carbon tetrachloride	<1.3	<1.3	<0.20	<0.20	<1.3	<0.20	<1.3	<0.20	<1.3	<0.20	<1.3	<0.20	0.69 J	0.11 J	<1.3	<0.20	<1.3	<0.20	<1.3	<0.20	<1.3	<0.20	<1.3	<0.20
PCE	<1.4	<1.4	<0.20	<0.20	<1.4	<0.20	<1.4	<0.20	<1.4	<0.20	<1.4	<0.20	1.2 J	0.18 J	<1.4	<0.20	<1.4	<0.20	<1.4	<0.20	<1.4	<0.20	<1.4	<0.20
TCE	<1.1	<1.1	<0.20	<0.20	<1.1	<0.20	<1.1	<0.20	<1.1	<0.20	<1.1	<0.20	<1.1	<0.20	<1.1	<0.20	<1.1	<0.20	<1.1	<0.20	<1.1	<0.20	<1.1	<0.20

Analyte	Capuano Center, Outside of School by Day Care Window					
	150 GLEN-0-2A		150 GLEN-0-2B		150 GLEN-0-2A	
	12/27/2006		12/28/2006		1/6/2007	
	$\mu g/m^3$	ppbv	$\mu g/m^3$	ppbv	$\mu g/m^3$	ppbv
Carbon tetrachloride	1.1 J	0.17 J	<1.3	<0.20	0.52 J S	0.082 J S
PCE	<1.4	<0.20	<1.4	<0.20	<1.4	<0.20
TCE	<1.1	<0.20	<1.1	<0.20	<1.1	<0.20

Analyte	Capuano Center, Outside of School by Room 126 Window					
	150 GLEN-0-1A		150 GLEN-0-1B		150 GLEN-0-1A	
	12/27/2006		12/28/2006		1/6/2007	
	$\mu g/m^3$	ppbv	$\mu g/m^3$	ppbv	$\mu g/m^3$	ppbv
Carbon tetrachloride	<1.3	<0.20	<1.3	<0.20	0.52 J S	0.083 J S
PCE	<1.4	<0.20	<1.4	<0.20	<1.4	<0.20
TCE	<1.1	<0.20	<1.1	<0.20	<1.1	<0.20

Analyte	Outdoor Sample In Site	
	045160-Tufts-O-3A	
	10/2/06	
	ug/m^3	ppbV
PCE	< 1.4	< 0.20
TCE	< 1.1	< 0.20

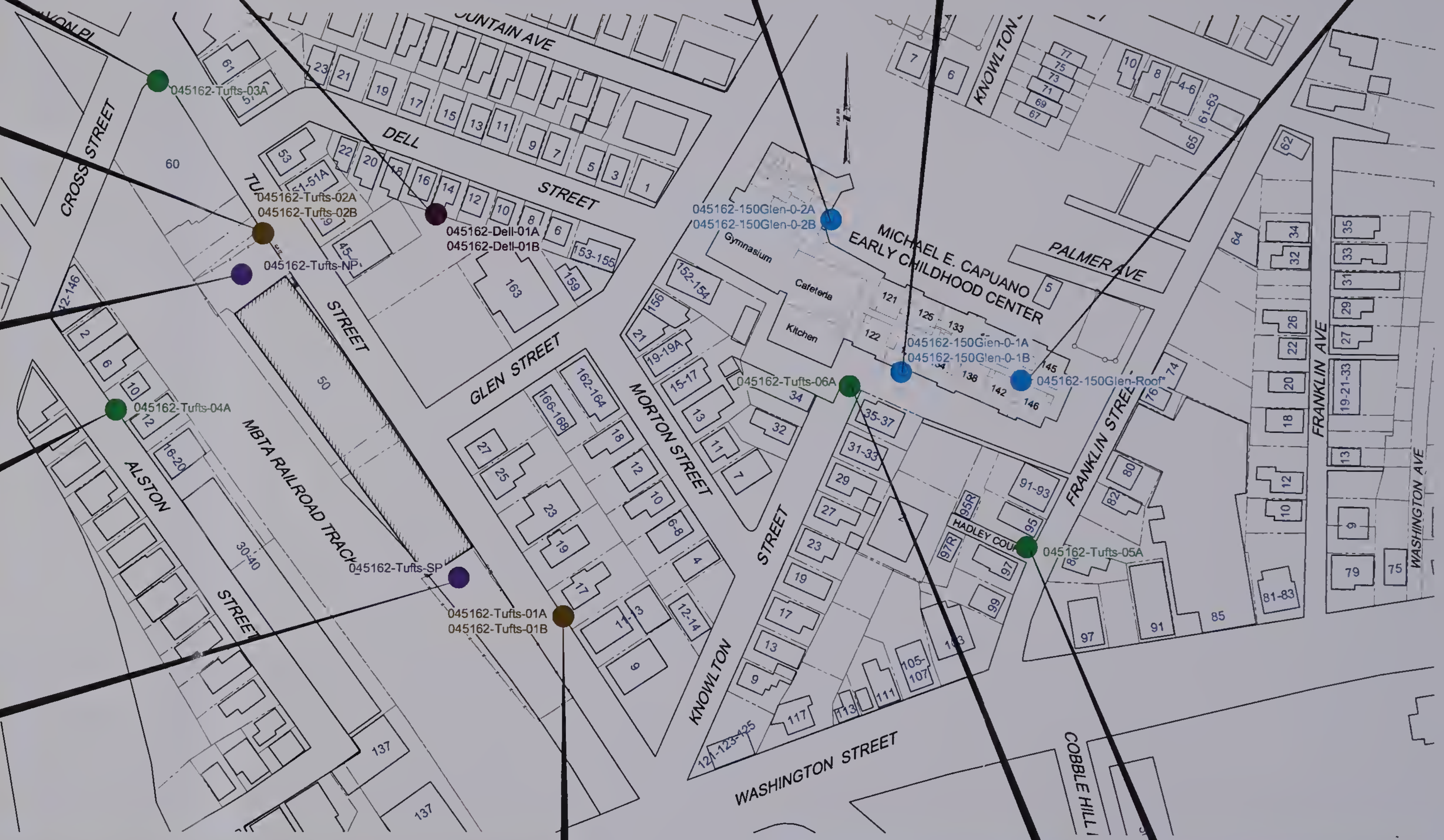
Analyte	Outdoor, Northeast Corner of 50 Tufts Street															
	045160-Tufts-O-1A		045160-Tufts-O-1B		045160-Tufts-O-1B		045160-Tufts-O-2B		045162-Tufts-O-2A		045162-Tufts-O-2B		045160-Tufts-O-1A		045160-Tufts-O-1B	
	3/23/06		3/24/06		6/28/06		6/29/06		9/28/06		10/2/06		12/15/06		12/18/06	
	ug/m^3	ppbV	$\mu g/m^3$	ppbv	$\mu g/m^3$	ppbv	$\mu g/m^3$	ppbv	$\mu g/m^3$	ppbv	$\mu g/m^3$	ppbv	$\mu g/m^3$	ppbv	ug/m^3	ppbv
Carbon Tetrachloride	< 1.3	< 0.20	< 1.3	< 0.20	0.69 J	0.11 J	0.69 J	0.11 J	< 1.3	< 0.20	< 1.3	< 0.20	< 1.3	< 0.20	0.82	0.13
Chloromethane	1.1 L	0.53 L	1.1 L	0.55 L	1.4	0.70	1.4	0.66	NT	NT	NT	NT	NT	NT	NT	NT
Methylene chloride	< 1.2 J+	< 0.35 J+	< 0.97 J+	< 0.28 J+	< 3.0 J+	< 0.86 J+	< 5.6 J+	< 1.6 J+	NT	NT	NT	NT	NT	NT	NT	NT
PCE	< 1.4	< 0.20	< 1.4	< 0.20	8.1	1.2	5.4	0.80	< 1.4	< 0.20	1.6	0.24	0.88 J	0.13 J	2.7	0.4
TCA, 1,1,1-	< 1.1	< 0.20	< 1.1	< 0.20	0.65 J	0.12 J	1.1	0.21	< 1.1	< 0.20	0.76 J	0.14 J	< 1.1	< 0.20	< 1.1	< 0.20
TCE	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	0.91 J	0.17 J	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20

Analyte	North Parking Lot, 50 Tufts Street													
	04516-50T-NP		04516-NP		50Tufts-NP		50T-NP		50TUFTS-NP		50TUFTS-NP2 (FD)		50T-NP	
	5/1/2007		5/14/2007		6/28/2007		8/28/2007		10/4/2007		10/4/2007		12/7/2007	
	$\mu g/m^3$	ppbv	$\mu g/m^3$	ppbv	$\mu g/m^3$	ppbv	$\mu g/m^3$	ppbv	$\mu g/m^3$	ppbv	$\mu g/m^3$	ppbv	$\mu g/m^3$	ppbv
Carbon tetrachloride	0.75 J	0.12 J	<1.3	<0.2	<1.3	<0.20	0.63 J	0.10 J	<1.3	<0.20	<1.3	<0.20	0.69 J	0.11 J
PCE	1.8	0.26	7.5	1.1	12 G	1.7 G	14	2	3.9	0.57	7.5	1.1	2.2	0.33
TCA,1,1,1-	0.38 J	0.070 J	0.98 J	0.18 J	2	0.36	2	0.36	0.50 J	0.091 J	1.2	0.22	<1.1	<0.20
TCE	<1.1	<0.20	0.64 J	0.12 J	1.60	0.3	1.6	0.29	<1.1	<0.20	0.75 J	0.14 J	<1.1	<0.20
Total VOCs	1.8	0.26	7.5	1.1	15.6	2.36	17.63	2.65	3.9	0.57	8.7	1.32	2.2	0.33

Analyte	Outdoor Sample In Site	
	045160-Tufts-O-4A	
	10/2/06	
	ug/m^3	ppbV
PCE	< 1.4	< 0.20
TCE	< 1.1	< 0.20

Analyte	South Parking Lot, 50 Tufts Street													
	04516-50T-SP		04516-SP		50Tufts-SP		50T-SP		50TUFTS-SP		50TUFTS-SP2 (FD)		50T-SP	
	5/1/2007		5/14/2007		6/28/2007		8/28/2007		10/4/2007		10/4/2007		12/7/2007	
	$\mu g/m^3$	ppbv	$\mu g/m^3$	ppbv	$\mu g/m^3$	ppbv	$\mu g/m^3$	ppbv	$\mu g/m^3$	ppbv	$\mu g/m^3$	ppbv	$\mu g/m^3$	ppbv
Carbon tetrachloride	0.69 J	0.11 J	0.63 J	0.1 J	<1.3	<0.20	0.69 J	0.11 J	<1.3	<0.20	<1.3	<0.20	0.75 J	0.12 J
PCE	3.7	0.54	2.8	0.42	1.8 G	0.26 G	160	23.6	1.3 J	0.19 J	9.5	1.4	2.0	0.29
TCA,1,1,1-	<1.1	<0.20	<1.1	<0.2	<1.1	<0.20	16	2.9	<1.1	<0.20	<1.1	<0.20	<1.1	<0.20
TCE	<1.1	<0.20	<1.1	<0.2	<1.1	<0.20	12	2.2	<1.1	<0.20	<1.1	<0.20	<1.1	<0.20
Total VOCs	3.7	0.54	2.8	0.42	1.8	0.26	188	28.7	ND	ND	9.5	1.4	2.0	0.29

Analyte	Outdoor, In Tree In Front of 17 Tufts Street															
	045160-Tufts-O-2A		045160-Tufts-O-2B		045160-Tufts-O-1A		045160-Tufts-O-2A		045162-Tufts-O-1A		045162-Tufts-O-1B		045160-Tufts-O-2A		045160-Tufts-O-2B	
	3/23/06		3/24/06		6/28/06		6/29/06		9/28/06		10/2/06		12/15/06		12/18/06	
	ug/m^3	ppbV	$\mu g/m^3$	ppbv	$\mu g/m^3$	ppbv	$\mu g/m^3$	ppbv	$\mu g/m^3$	ppbv	$\mu g/m^3$	ppbv	$\mu g/m^3$	ppbv	ug/m^3	ppbv
Carbon Tetrachloride	< 1.3	< 0.81	< 1.3	< 0.20	< 1.3	< 0.20	< 1.3	< 0.20	< 1.3	< 0.20	< 1.3	< 0.20	< 1.3	< 0.20	0.6	0.095
Chloromethane	1.3 L	0.62 L	1.3 L	0.61 L	1.2	0.57	1.8	0.89	NT	NT	NT	NT	NT	NT	NT	NT
Methylene chloride	< 1.9 M	< 0.56 J+	< 0.83 J+	< 0.24 J+	< 1.3 J+	< 0.37 J+	< 5.9 J+	< 1.7 J+	NT	NT	NT	NT	NT	NT	NT	NT
PCE	< 1.4	< 0.20	< 1.4	< 0.20	1.2 J	0.18 J	2.4	0.36	< 1.4	< 0.20	< 1.4	< 0.20	2	0.3	2.8	0.41
TCA, 1,1,1-	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	<0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	0.98	0.18
TCE	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	< 1.1	< 0.20	0.59	0.11



Analyte	Outdoor Sample In Site	
	045160-Tufts-O-6A	
	10/2/06	
	ug/m^3	ppbV
PCE	< 1.4	< 0.20
TCE	< 1.1	< 0.20

Analyte	Outdoor Sample In Site	
	045160-Tufts-O-5A	
	10/2/06	
	ug/m^3	ppbV
PCE	< 1.4	< 0.20
TCE	< 1.1	< 0.20

LEGEND:

—·—·— CHAIN LINK FENCE

138 ROOM NUMBER AT CAPUANO SCHOOL

▱ BOUNDARY OF COMMUNITY GARDENS

84 STREET ADDRESS

● OUTDOOR AIR SAMPLING LOCATION, JANUARY 2007

● OUTDOOR AIR SAMPLING LOCATION, OCTOBER AND DECEMBER 2006

● OUTDOOR AIR SAMPLING LOCATION, OCTOBER 2006

● CAPUANO CENTER OUTDOOR AIR SAMPLING LOCATION

MBTA = MASSACHUSETTS BAY TRANSPORTATION AUTHORITY

LABORATORY DATA TABLE NOTES:

1. CONCENTRATIONS OF PCE AND TCE ARE SHOWN FOR EACH SAMPLE.
2. < = THE ANALYTE WAS NOT DETECTED AT A CONCENTRATIION ABOVE THE LABORATORY REPORTING LIMIT.
3. PCE = TETRACHLOROETHYLENE
4. TCE = TRICHLOROETHYLENE
5. TCA 1,1,1 = TRICHLOROETHANE,1,1,1-.
6. J = THE REPORTED RESULTS IS BELOW THE REPORTING LIMIT AND IS ESTIMATED.

GENERAL NOTES:

1. HORIZONTAL CONTROL FOR THIS PLAN WAS ESTABLISHED BY GPS AND IS BASED ON THE NORTH AMERICAN DATUM OF 1983.
2. VERTICAL CONTROL FOR THIS PLAN WAS ESTABLISHED BY GPS AND IS BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988.
3. BUILDINGS, STREET, AND PROPERTY LINES BASED ON SOMERVILLE ASSESSORS' MAPS.
4. CAPUANO CENTER BUILDING IS BASED ON DRAWING A0.2 FROM THE ARCHITECTURAL BID SET OF "THE EDGERTY EARLY CHILDHOOD DEVELOPMENT CENTER" BY HMFH ARCHITECTS, INC., DATED AUGUST 10, 2001.
5. AIR SAMPLING LOCATIONS SHOWN ON THE FIGURE ARE APPROXIMATE.
6. * - CAPUANO CENTER ROOF SAMPLE TAKEN AT VARIOUS LOCATIONS BASED ON WIND DIRECTION.

0 100 200
SCALE, FEET

Phase II CSA and Phase III RAP
50 Tufts Street
Somerville, Massachusetts

UniFirst Corporation
Wilmington, Massachusetts

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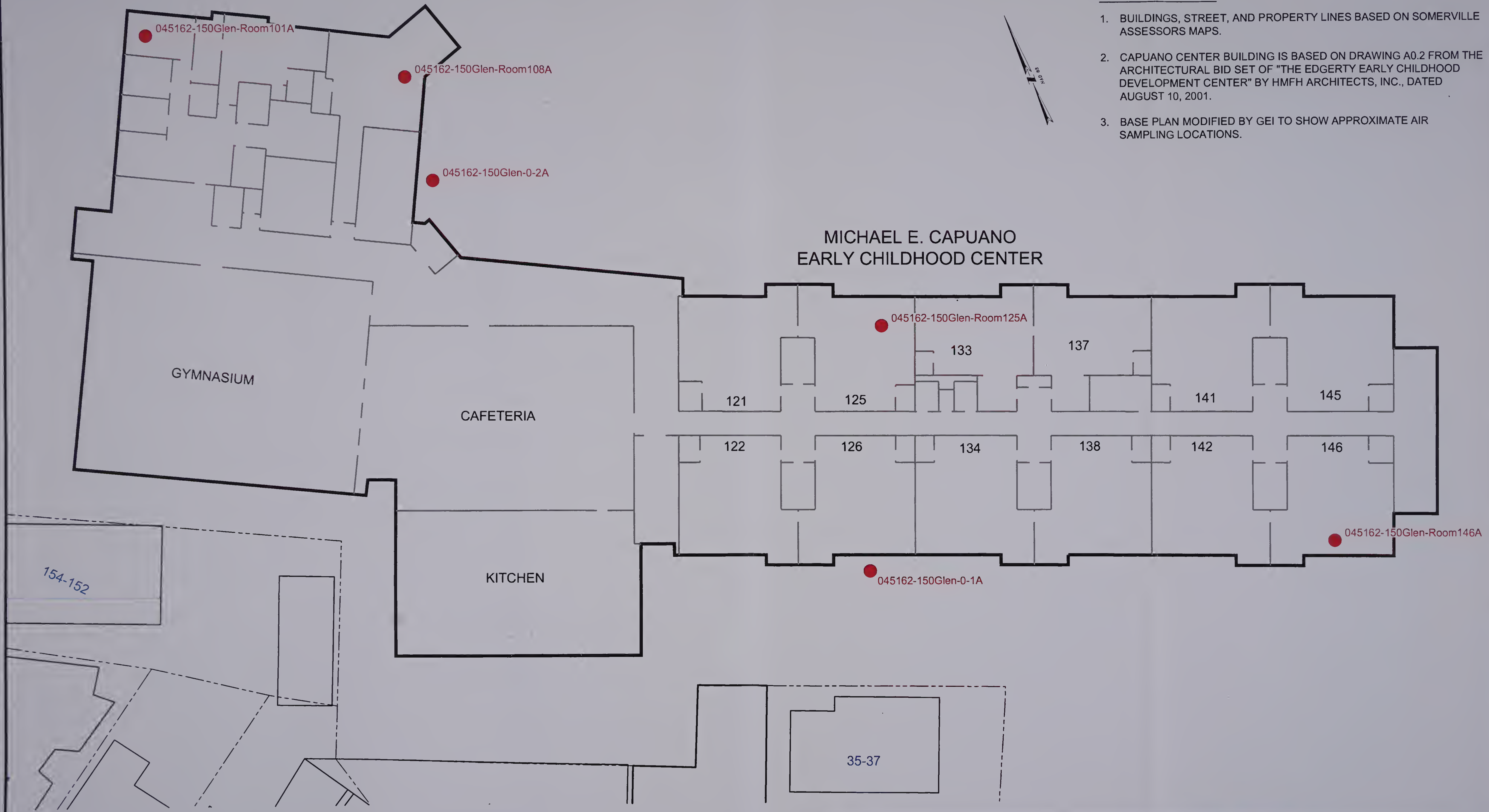
LABORATORY TESTING RESULTS-
OUTDOOR AIR SAMPLING

Project 04516-2 | July 2008 | Fig. 7-6

N:\04516\#Drafting\045160-2\Phase II CSA Phase III RAP\045162-25

GENERAL NOTES:

1. BUILDINGS, STREET, AND PROPERTY LINES BASED ON SOMERVILLE ASSESSORS MAPS.
2. CAPUANO CENTER BUILDING IS BASED ON DRAWING A0.2 FROM THE ARCHITECTURAL BID SET OF "THE EDGERTY EARLY CHILDHOOD DEVELOPMENT CENTER" BY HMFH ARCHITECTS, INC., DATED AUGUST 10, 2001.
3. BASE PLAN MODIFIED BY GEI TO SHOW APPROXIMATE AIR SAMPLING LOCATIONS.



LEGEND:

●	4-HOUR SUMMA CANISTER SAMPLE
138	ROOM NUMBER AT CAPUANO SCHOOL

0 30 60

APPROXIMATE SCALE, FEET

Phase II CSA and Phase III RAP
50 Tufts Street
Somerville, Massachusetts

UniFirst Corporation
Wilmington, Massachusetts

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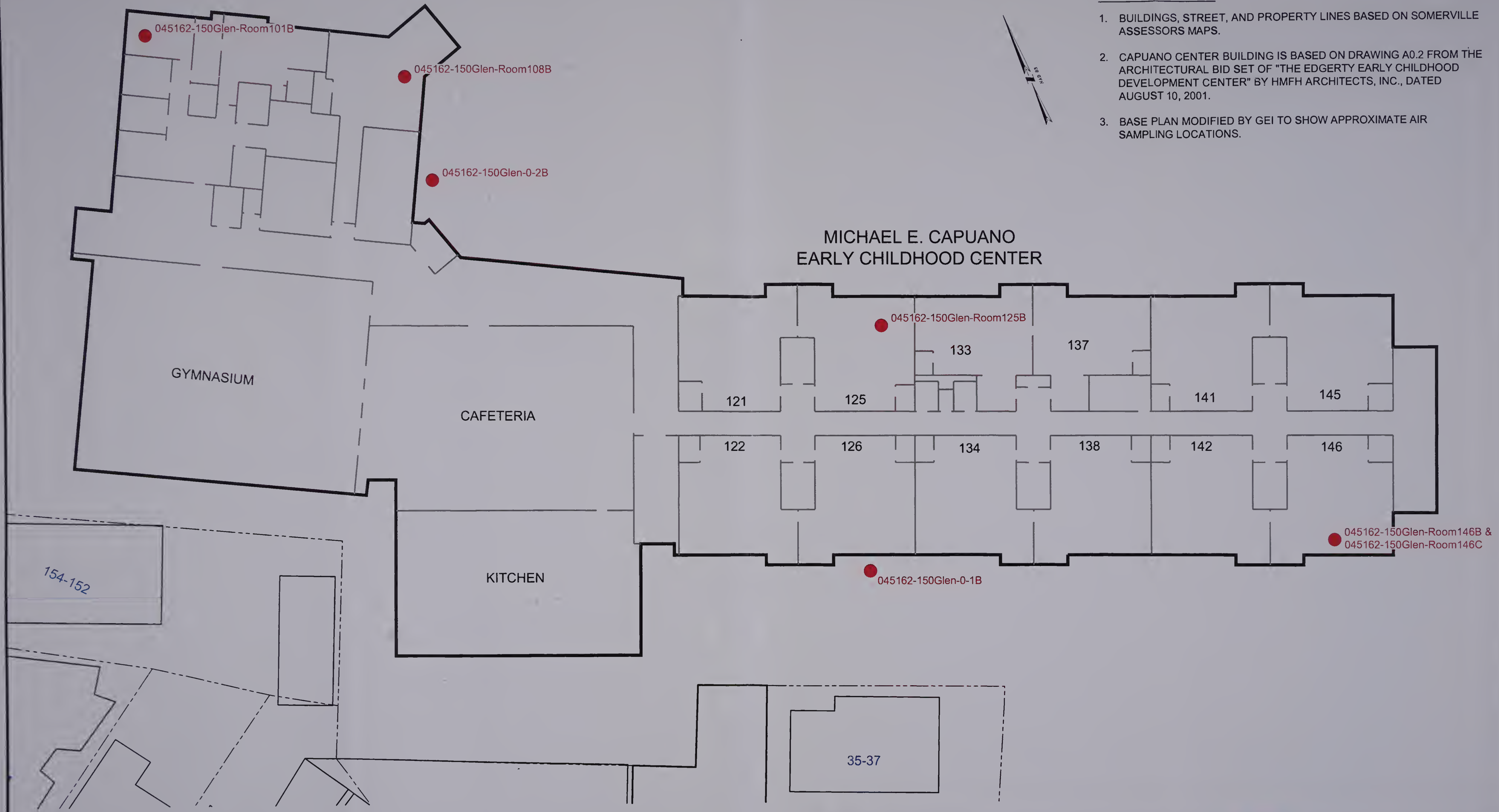
CAPUANO CENTER
INDOOR AND OUTDOOR AIR
SAMPLING LOCATIONS
12/27/06

Project 04516-2 | July 2008 | Fig. 8-1

N:\04516\#Drafting\045160-2\Phase II CSA Phase III RAP\045162-26



GENERAL NOTES:

1. BUILDINGS, STREET, AND PROPERTY LINES BASED ON SOMERVILLE ASSESSORS MAPS.
2. CAPUANO CENTER BUILDING IS BASED ON DRAWING A0.2 FROM THE ARCHITECTURAL BID SET OF "THE EDGERTY EARLY CHILDHOOD DEVELOPMENT CENTER" BY HMFH ARCHITECTS, INC., DATED AUGUST 10, 2001.
3. BASE PLAN MODIFIED BY GEI TO SHOW APPROXIMATE AIR SAMPLING LOCATIONS.

LEGEND:

●	4-HOUR SUMMA CANISTER SAMPLE
138	ROOM NUMBER AT CAPUANO SCHOOL

0 30 60

APPROXIMATE SCALE, FEET

Phase II CSA and Phase III RAP
50 Tufts Street
Somerville, Massachusetts

UniFirst Corporation
Wilmington, Massachusetts

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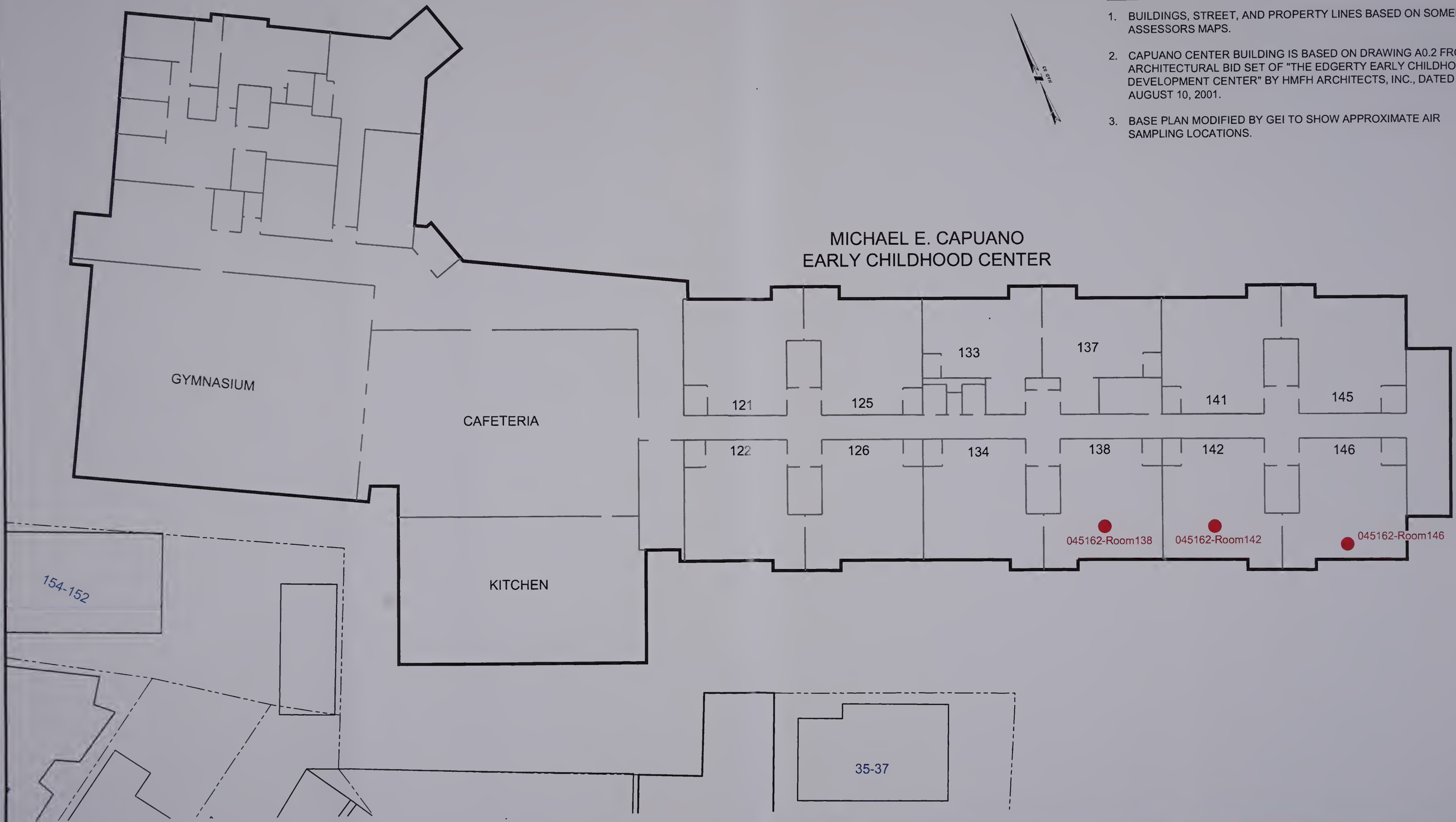
CAPUANO CENTER
INDOOR AND OUTDOOR AIR
SAMPLING LOCATIONS
12/28/06

Project 04516-2 July 2008 Fig. 8-2

N:\04516\#Drafting\045160-2\Phase II CSA Phase III RAP\045162-26

GENERAL NOTES:

1. BUILDINGS, STREET, AND PROPERTY LINES BASED ON SOMERVILLE ASSESSORS MAPS.
2. CAPUANO CENTER BUILDING IS BASED ON DRAWING A0.2 FROM THE ARCHITECTURAL BID SET OF "THE EDGERTY EARLY CHILDHOOD DEVELOPMENT CENTER" BY HMFH ARCHITECTS, INC., DATED AUGUST 10, 2001.
3. BASE PLAN MODIFIED BY GEI TO SHOW APPROXIMATE AIR SAMPLING LOCATIONS.



LEGEND:

●	4-HOUR SUMMA CANISTER SAMPLE
138	ROOM NUMBER AT CAPUANO SCHOOL

Phase II CSA and Phase III RAP
50 Tufts Street
Somerville, Massachusetts
UniFirst Corporation
Wilmington, Massachusetts

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CAPUANO CENTER
INDOOR AIR SAMPLING
LOCATIONS
1/2/07

Project 04516-2 | July 2008 | Fig. 8-3

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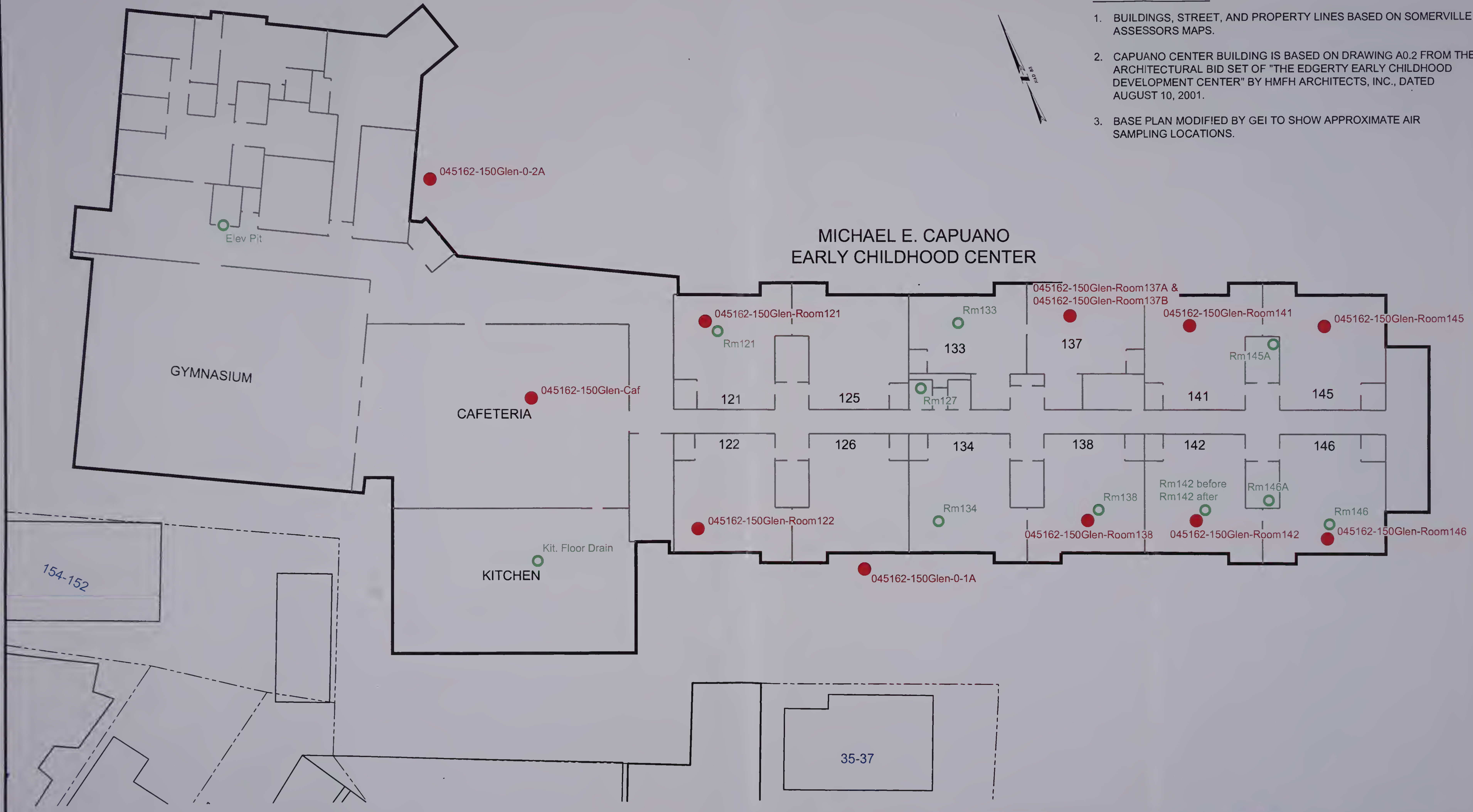


GENERAL NOTES:

1. BUILDINGS, STREET, AND PROPERTY LINES BASED ON SOMERVILLE ASSESSORS MAPS.
2. CAPUANO CENTER BUILDING IS BASED ON DRAWING A0.2 FROM THE ARCHITECTURAL BID SET OF "THE EDGERTY EARLY CHILDHOOD DEVELOPMENT CENTER" BY HMFH ARCHITECTS, INC., DATED AUGUST 10, 2001.
3. BASE PLAN MODIFIED BY GEI TO SHOW APPROXIMATE AIR SAMPLING LOCATIONS.

LEGEND:

●	4-HOUR SUMMA CANISTER SAMPLE
○	GC TEDLAR BAG GRAB SAMPLE
138	ROOM NUMBER AT CAPUANO SCHOOL

0 30 60

APPROXIMATE SCALE, FEET

Phase II CSA and Phase III RAP
50 Tufts Street
Somerville, Massachusetts

UniFirst Corporation
Wilmington, Massachusetts

GEI Consultants

Project 04516-2

CAPUANO CENTER
INDOOR AND OUTDOOR AIR
SAMPLING LOCATIONS
1/6/07

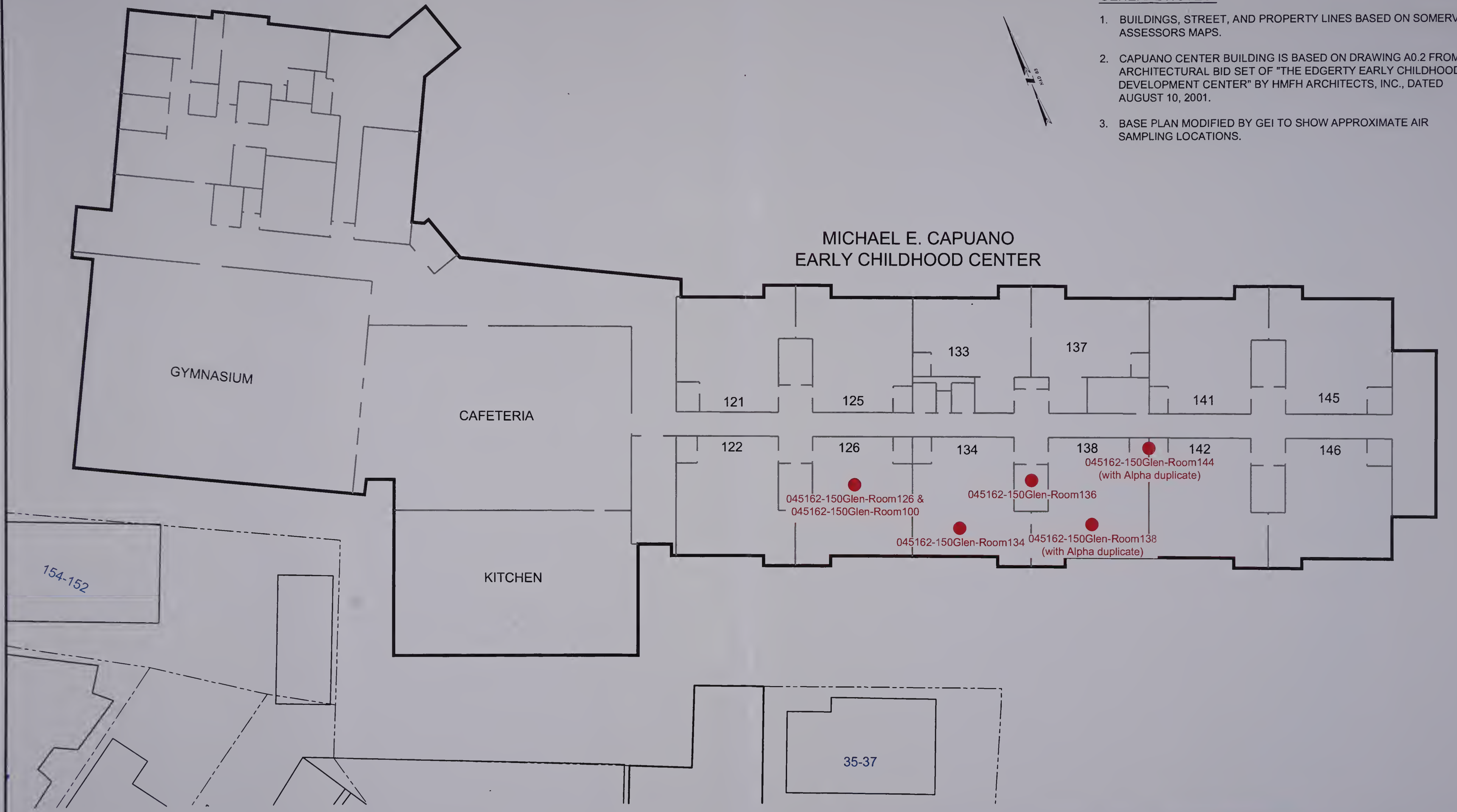
July 2008

Fig. 8-4

N:\04516\#Drafting\045160-2\Phase II CSA Phase III RAP\045162-26

GENERAL NOTES:

1. BUILDINGS, STREET, AND PROPERTY LINES BASED ON SOMERVILLE ASSESSORS MAPS.
2. CAPUANO CENTER BUILDING IS BASED ON DRAWING A0.2 FROM THE ARCHITECTURAL BID SET OF "THE EDGERTY EARLY CHILDHOOD DEVELOPMENT CENTER" BY HMFH ARCHITECTS, INC., DATED AUGUST 10, 2001.
3. BASE PLAN MODIFIED BY GEI TO SHOW APPROXIMATE AIR SAMPLING LOCATIONS.



LEGEND:

●	4-HOUR SUMMA CANISTER SAMPLE
138	ROOM NUMBER AT CAPUANO SCHOOL

0 30 60

APPROXIMATE SCALE, FEET

Phase II CSA and Phase III RAP
50 Tufts Street
Somerville, Massachusetts

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Project 04516-2

CAPUANO CENTER
INDOOR AIR SAMPLING
LOCATIONS
1/13/07

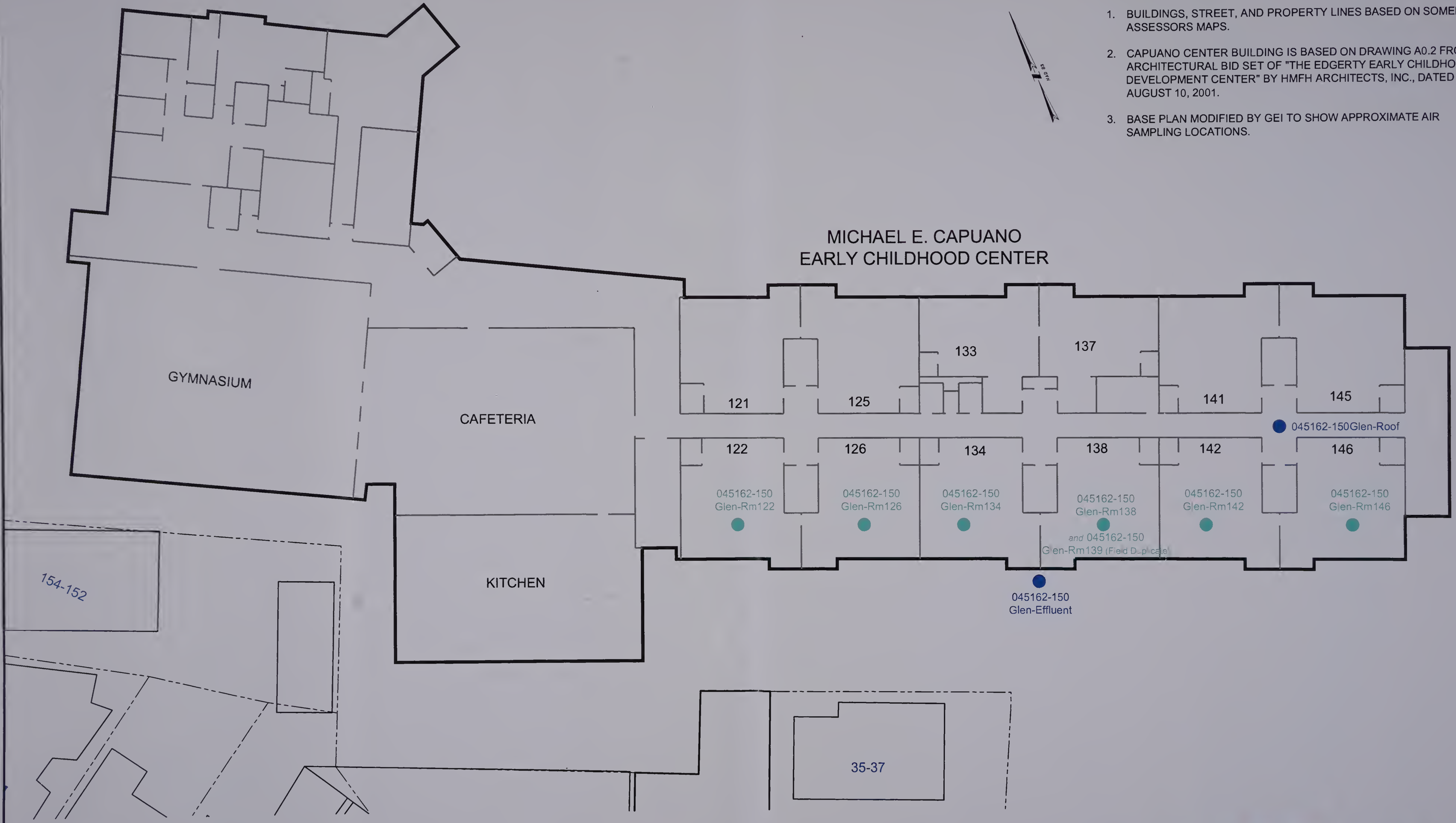
July 2008

Fig. 8-5

N:\04516\#Drafting\045160-2\Phase II CSA Phase III RAP\045162-26

GENERAL NOTES:

1. BUILDINGS, STREET, AND PROPERTY LINES BASED ON SOMERVILLE ASSESSORS MAPS.
2. CAPUANO CENTER BUILDING IS BASED ON DRAWING A0.2 FROM THE ARCHITECTURAL BID SET OF "THE EDGERTY EARLY CHILDHOOD DEVELOPMENT CENTER" BY HMFH ARCHITECTS, INC., DATED AUGUST 10, 2001.
3. BASE PLAN MODIFIED BY GEI TO SHOW APPROXIMATE AIR SAMPLING LOCATIONS.



LEGEND:

● INDOOR AIR SAMPLE (4-HOUR SUMMA CANISTER) FEBRUARY 7, 2007

● OUTDOOR AIR SAMPLE (1-HOUR SUMMA CANISTER) FEBRUARY 8, 2007

138 ROOM NUMBER AT CAPUANO SCHOOL

0 30 60

APPROXIMATE SCALE, FEET

Phase II CSA and Phase III RAP
50 Tufts Street
Somerville, Massachusetts

UniFirst Corporation
Wilmington, Massachusetts

GEI Consultants

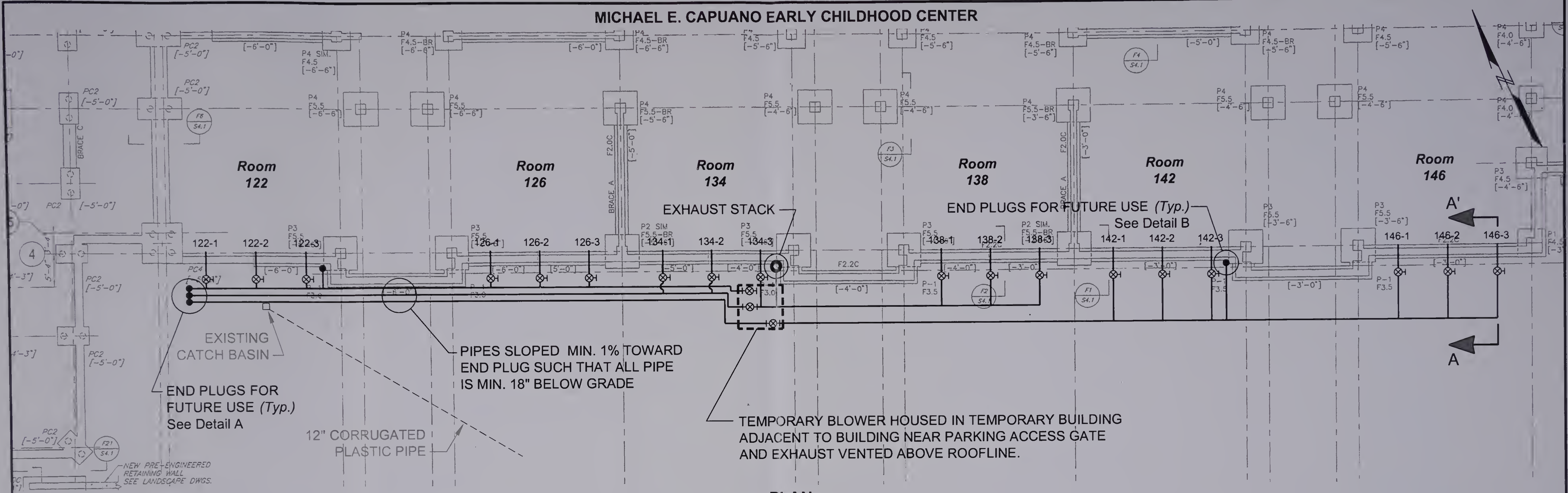
Project 04516-2

CAPUANO CENTER
INDOOR AND OUTDOOR AIR
SAMPLING LOCATIONS
2/7/07 & 2/8/07

July 2008

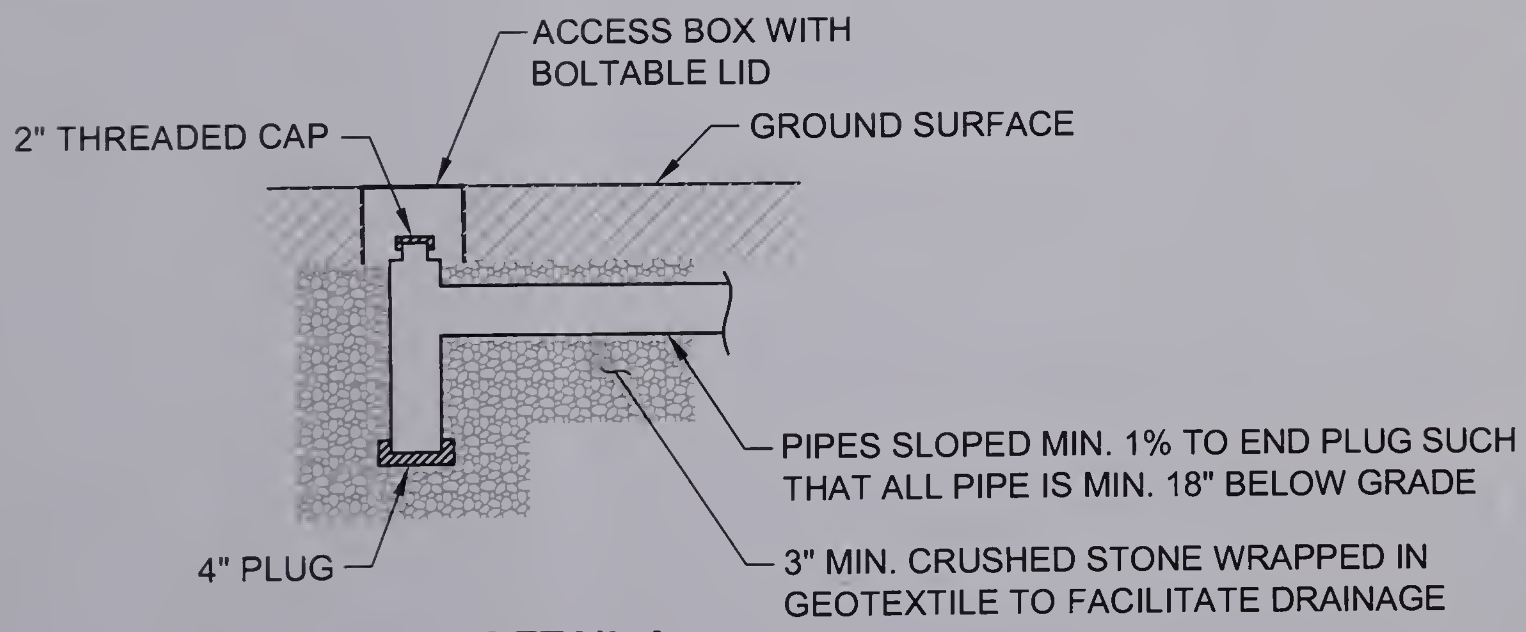
Fig. 8-6

N:\04516\#Drafting\045160-2\Phase II CSA Phase III RAP\045162-26


MICHAEL E. CAPUANO EARLY CHILDHOOD CENTER
Room 122
Room 126
Room 134
Room 138
Room 142
Room 146
122-1
122-2
122-3
126-1
126-2
126-3
134-1
134-2
134-3
138-1
138-2
138-3
142-1
142-2
142-3
146-1
146-2
146-3
EXHAUST STACK
END PLUGS FOR FUTURE USE (Typ.)
See Detail B
A'
A
EXISTING CATCH BASIN
END PLUGS FOR FUTURE USE (Typ.)
See Detail A
PIPES SLOPED MIN. 1% TOWARD END PLUG SUCH THAT ALL PIPE IS MIN. 18" BELOW GRADE
12" CORRUGATED PLASTIC PIPE
TEMPORARY BLOWER HOUSED IN TEMPORARY BUILDING ADJACENT TO BUILDING NEAR PARKING ACCESS GATE AND EXHAUST VENTED ABOVE ROOFLINE.
NEW PRE-ENGINEERED RETAINING WALL SEE LANDSCAPE DWGS.

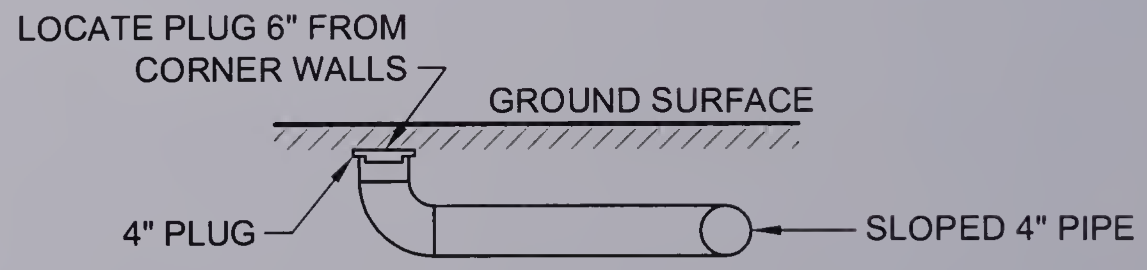
PLAN

Not To Scale


ACCESS BOX WITH BOLTABLE LID
2" THREADED CAP
GROUND SURFACE
PIPES SLOPED MIN. 1% TO END PLUG SUCH THAT ALL PIPE IS MIN. 18" BELOW GRADE
3" MIN. CRUSHED STONE WRAPPED IN GEOTEXTILE TO FACILITATE DRAINAGE
4" PLUG

DETAIL A

Not To Scale



DETAIL B

Not To Scale

NOTES:

1. FOR SECTION A-A SEE FIG. 8-8.
2. BASE PLAN FROM FIGURE TITLED "EDGERLY EARLY CHILDHOOD DEVELOPMENT CENTER SOMERVILLE, MASSACHUSETTS FOUNDATION PLAN - PART B" BY HMFH ARCHITECTS DATED AUGUST 10, 2001.
3. BASE PLAN HAS BEEN MODIFIED BY GEI TO SHOW THE APPROXIMATE LOCATION OF THE SSDS COMPONENTS.

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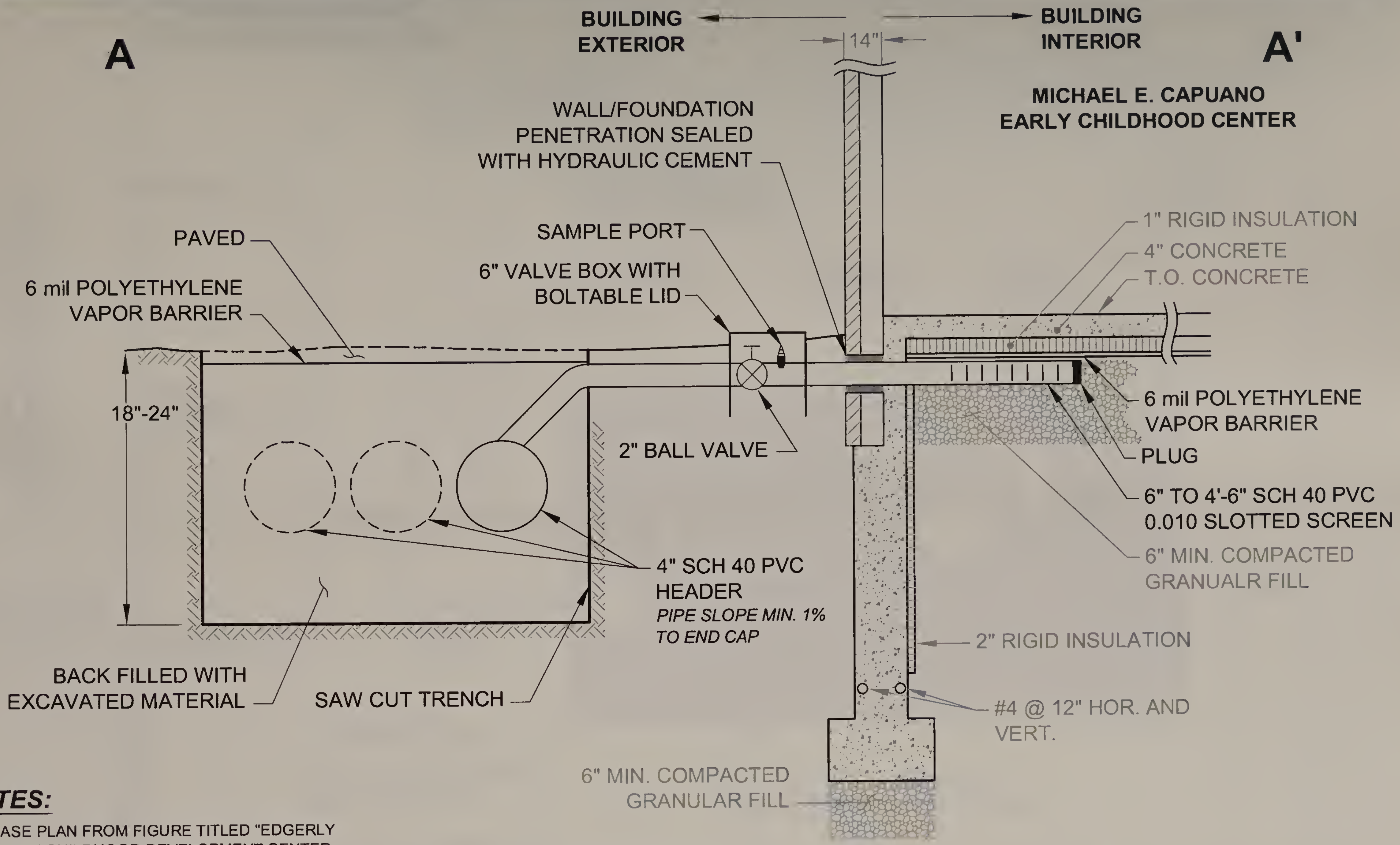
CAPUANO CENTER
SSDS EXTERIOR PIPING
SCHEMATIC

Project 04516-2 | July 2008 | Fig. 8-7

N:\04516\#Drafting\045160-2\Phase II CSA Phase III RAP\045162-27


A
BUILDING EXTERIOR
14"
BUILDING INTERIOR
A'
MICHAEL E. CAPUANO EARLY CHILDHOOD CENTER
WALL/FOUNDATION PENETRATION SEALED WITH HYDRAULIC CEMENT
PAVED
SAMPLE PORT
6" VALVE BOX WITH BOLTABLE LID
6 mil POLYETHYLENE VAPOR BARRIER
1" RIGID INSULATION
4" CONCRETE
T.O. CONCRETE
18"-24"
2" BALL VALVE
6 mil POLYETHYLENE VAPOR BARRIER
PLUG
6" TO 4'-6" SCH 40 PVC 0.010 SLOTTED SCREEN
6" MIN. COMPACTED GRANUALR FILL
4" SCH 40 PVC HEADER
PIPE SLOPE MIN. 1% TO END CAP
2" RIGID INSULATION
BACK FILLED WITH EXCAVATED MATERIAL
SAW CUT TRENCH
#4 @ 12" HOR. AND VERT.
6" MIN. COMPACTED GRANULAR FILL

SECTION A - A′
Not To Scale

NOTES:

1. BASE PLAN FROM FIGURE TITLED "EDGERLY EARLY CHILDHOOD DEVELOPMENT CENTER SOMERVILLE, MASSACHUSETTS FOUNDATION SECTIONS" BY HMFH ARCHITECTS DATED AUGUST 10, 2001.

2. BASE PLAN HAS BEEN MODIFIED BY GEI TO SHOW THE APPROXIMATE LOCATION AND DETAILS OF PORTIONS OF THE SSDS COMPONENTS.

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CAPUANO CENTER
TRENCH EXCAVATION AND WALL PENETRATION DETAILS

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Fig. 8-8

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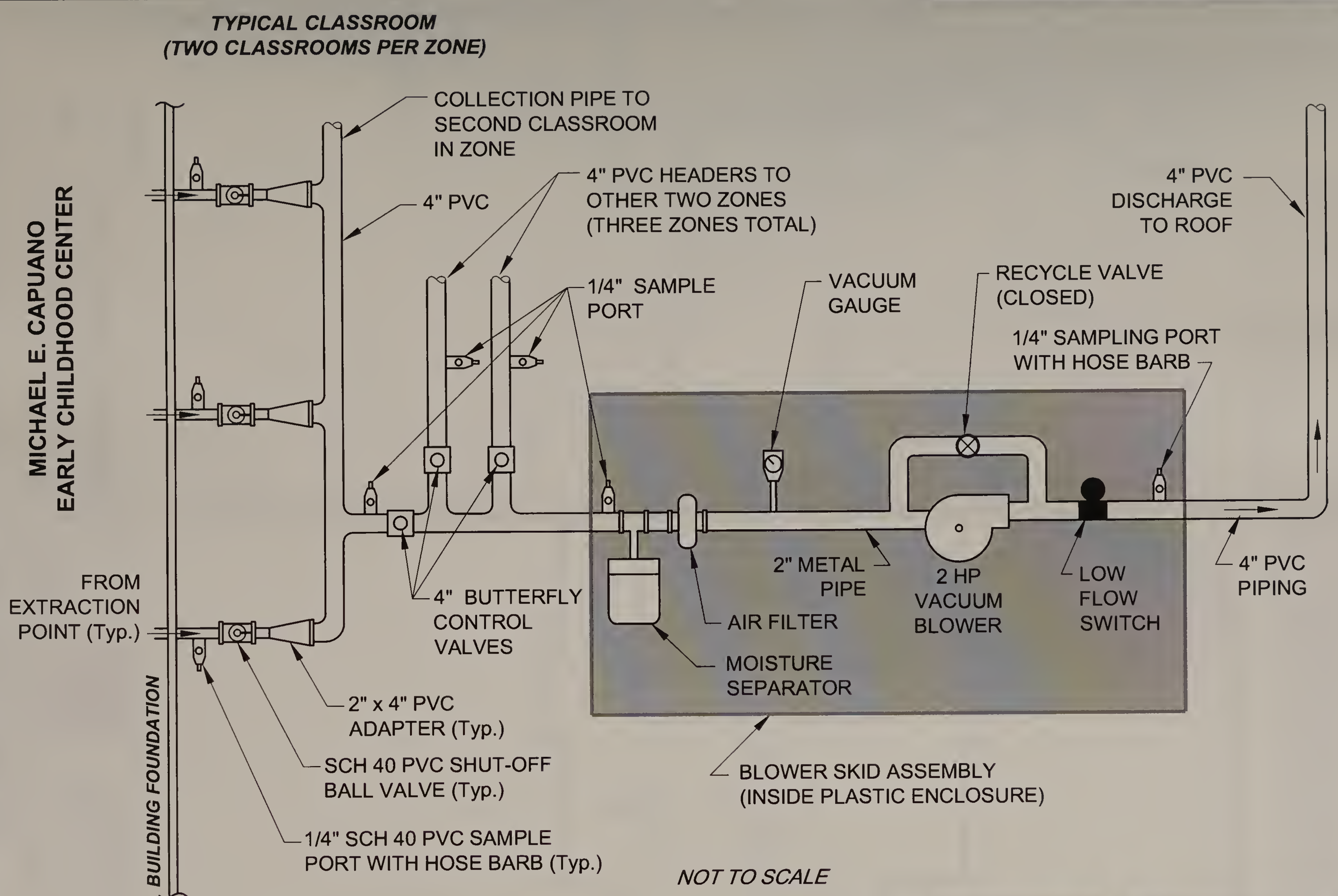
TYPICAL CLASSROOM
(TWO CLASSROOMS PER ZONE)
MICHAEL E. CAPUANO
EARLY CHILDHOOD CENTER
COLLECTION PIPE TO SECOND CLASSROOM IN ZONE
4" PVC
4" PVC HEADERS TO OTHER TWO ZONES (THREE ZONES TOTAL)
4" PVC DISCHARGE TO ROOF
1/4" SAMPLE PORT
VACUUM GAUGE
RECYCLE VALVE (CLOSED)
1/4" SAMPLING PORT WITH HOSE BARB
FROM EXTRACTION POINT (Typ.)
4" BUTTERFLY CONTROL VALVES
2" METAL PIPE
2 HP VACUUM BLOWER
LOW FLOW SWITCH
4" PVC PIPING
AIR FILTER
MOISTURE SEPARATOR
BUILDING FOUNDATION
2" x 4" PVC ADAPTER (Typ.)
SCH 40 PVC SHUT-OFF BALL VALVE (Typ.)
1/4" SCH 40 PVC SAMPLE PORT WITH HOSE BARB (Typ.)
BLOWER SKID ASSEMBLY (INSIDE PLASTIC ENCLOSURE)
NOT TO SCALE

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CAPUANO CENTER
SSDS BLOWER ASSEMBLY
AND PIPING CONNECTIONS

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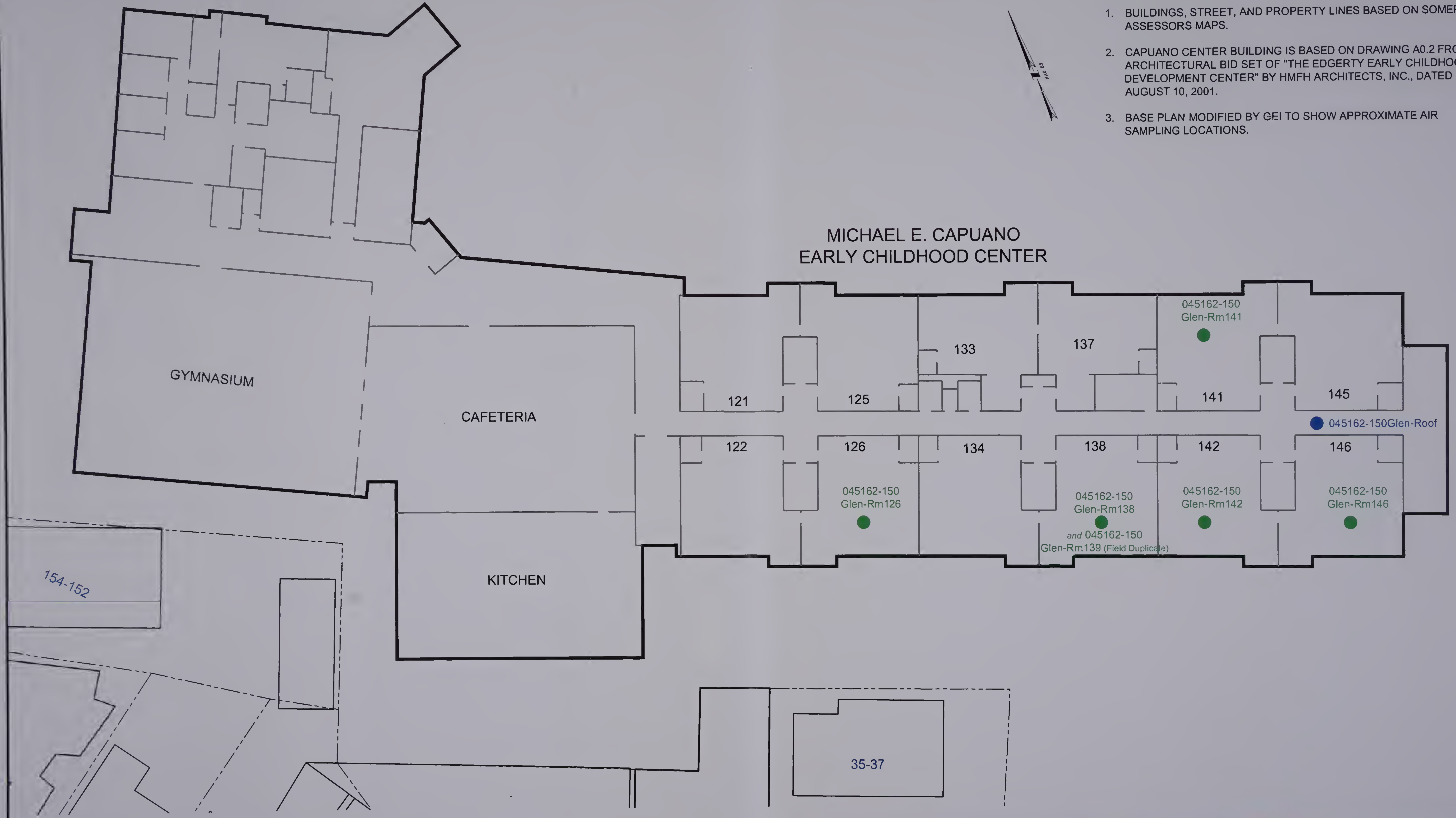
GENERAL NOTES:

1. BUILDINGS, STREET, AND PROPERTY LINES BASED ON SOMERVILLE ASSESSORS MAPS.
2. CAPUANO CENTER BUILDING IS BASED ON DRAWING A0.2 FROM THE ARCHITECTURAL BID SET OF "THE EDGERTY EARLY CHILDHOOD DEVELOPMENT CENTER" BY HMFH ARCHITECTS, INC., DATED AUGUST 10, 2001.
3. BASE PLAN MODIFIED BY GEI TO SHOW APPROXIMATE AIR SAMPLING LOCATIONS.



LEGEND:

● INDOOR AIR SAMPLE (4-HOUR SUMMA CANISTER)

● OUTDOOR AIR SAMPLE (4-HOUR SUMMA CANISTER)

138 ROOM NUMBER AT CAPUANO SCHOOL

0 30 60

APPROXIMATE SCALE, FEET

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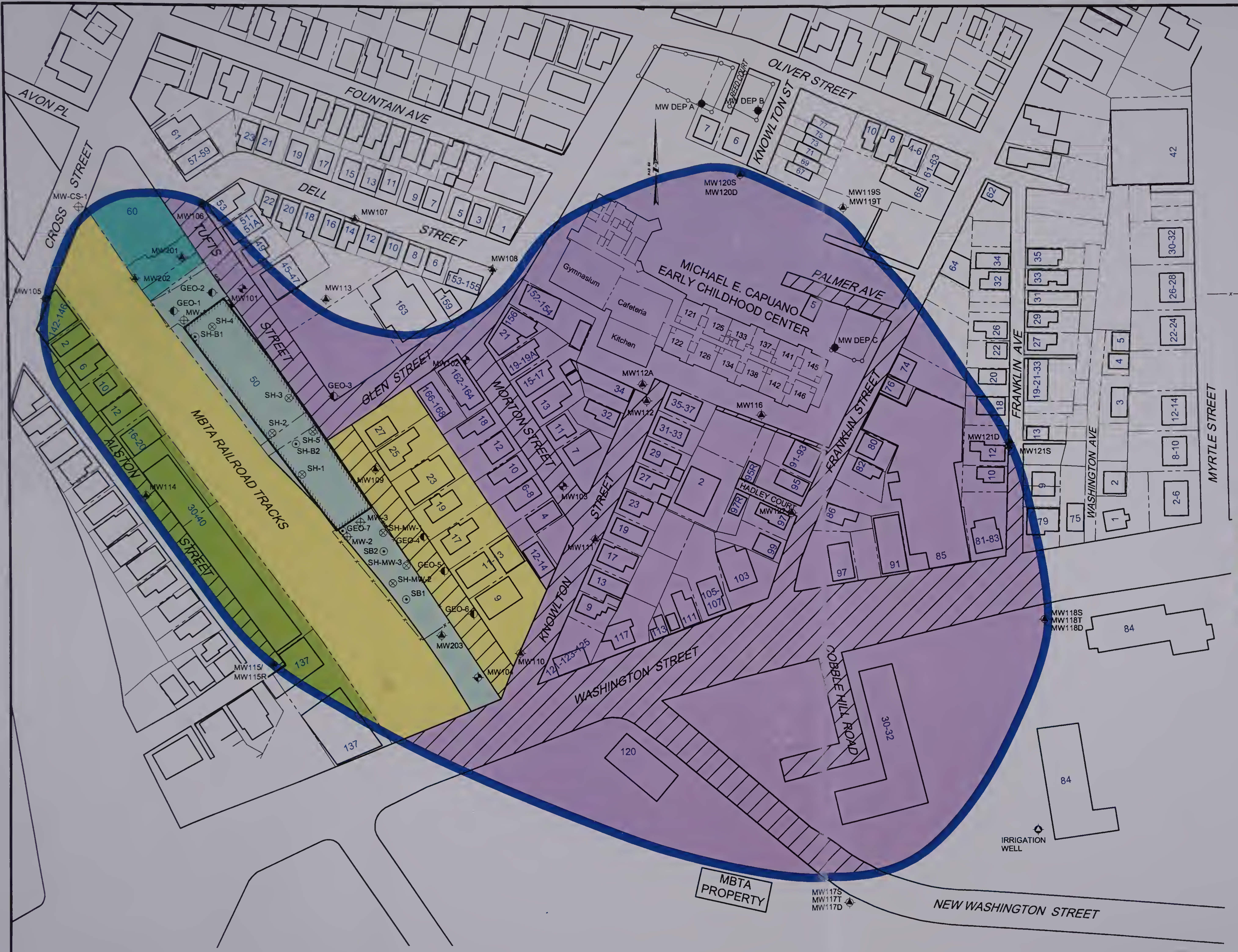
CAPUANO CENTER
MONTHLY INDOOR AND
OUTDOOR AIR SAMPLING
LOCATIONS

Project 04516-2 | July 2008 | Fig. 8-10

N:\04516\#Drafting\045160-2\Phase II CSA Phase III RAP\045162-30



0 150 300

SCALE, FEET

LEGEND:

▲ MONITORING WELL WITH SOIL VAPOR SAMPLE PORT INSTALLED BY GEI, JANUARY 2007 - JANUARY 2008

⊗ MONITORING WELL INSTALLED BY SANBORN HEAD ASSOCIATES, 2002

◐ MONITORING WELL INSTALLED BY GEOINSIGHT, JUNE 2004

⊙ SOIL BORING ADVANCED BY GEOINSIGHT, AUGUST 2004

⊕ MONITORING WELL INSTALLED BY GEI, MAY 2006

● DRIVEN POINT MONITORING WELL INSTALLED BY MADEP, MAY 2007

⊕ MONITORING WELL INSTALLED PREVIOUSLY, DATE UNKNOWN

△ PREVIOUSLY INSTALLED IRRIGATION WELL

—x—x— CHAIN LINK FENCE

138 ROOM NUMBER AT CAPUANO SCHOOL

▱ BOUNDARY OF COMMUNITY GARDENS

84 STREET ADDRESS

MBTA = MASSACHUSETTS BAY TRANSPORTATION AUTHORITY

▬ DISPOSAL SITE BOUNDARY

▨ NEIGHBORHOOD STREETS EXPOSURE AREA

🟩 THE PROPERTY EXPOSURE AREA

🟩 ALSTON STREET EXPOSURE AREA

🟨 TUFTS STREET AREA AND MBTA RAILROAD EXPOSURE AREA

🟦 60 TUFTS STREET EXPOSURE AREA

🟪 OTHER STREETS EXPOSURE AREA

GENERAL NOTES:

1. HORIZONTAL CONTROL FOR THIS PLAN WAS ESTABLISHED BY GPS AND IS BASED ON THE NORTH AMERICAN DATUM OF 1983.
2. STREET AND PROPERTY LINES BASED ON SOMERVILLE ASSESSORS' MAPS AND ARE BEST FIT RELATIVE TO THE LOCATION OF THE 50 TUFTS ST. BUILDING.
3. MONITORING WELL LOCATIONS AND ELEVATIONS, AND CAPUANO CENTER COMMUNITY GARDEN LOCATIONS WERE ESTABLISHED BY ON THE GROUND SURVEYS BY BSC GROUP, INC.
4. GEI OBSERVED ABANDONMENT OF SH-MW1 AND SH-1 THROUGH SH-5 IN 2007.
5. RISK CHARACTERIZATION EXPOSURE AREAS DEFINED BY AMEC EARTH & ENVIRONMENTAL OF WESTFORD, MASSACHUSETTS.

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RISK CHARACTERIZATION EXPOSURE AREAS

Project 04516-2 | July 2008 | Fig. 11-1

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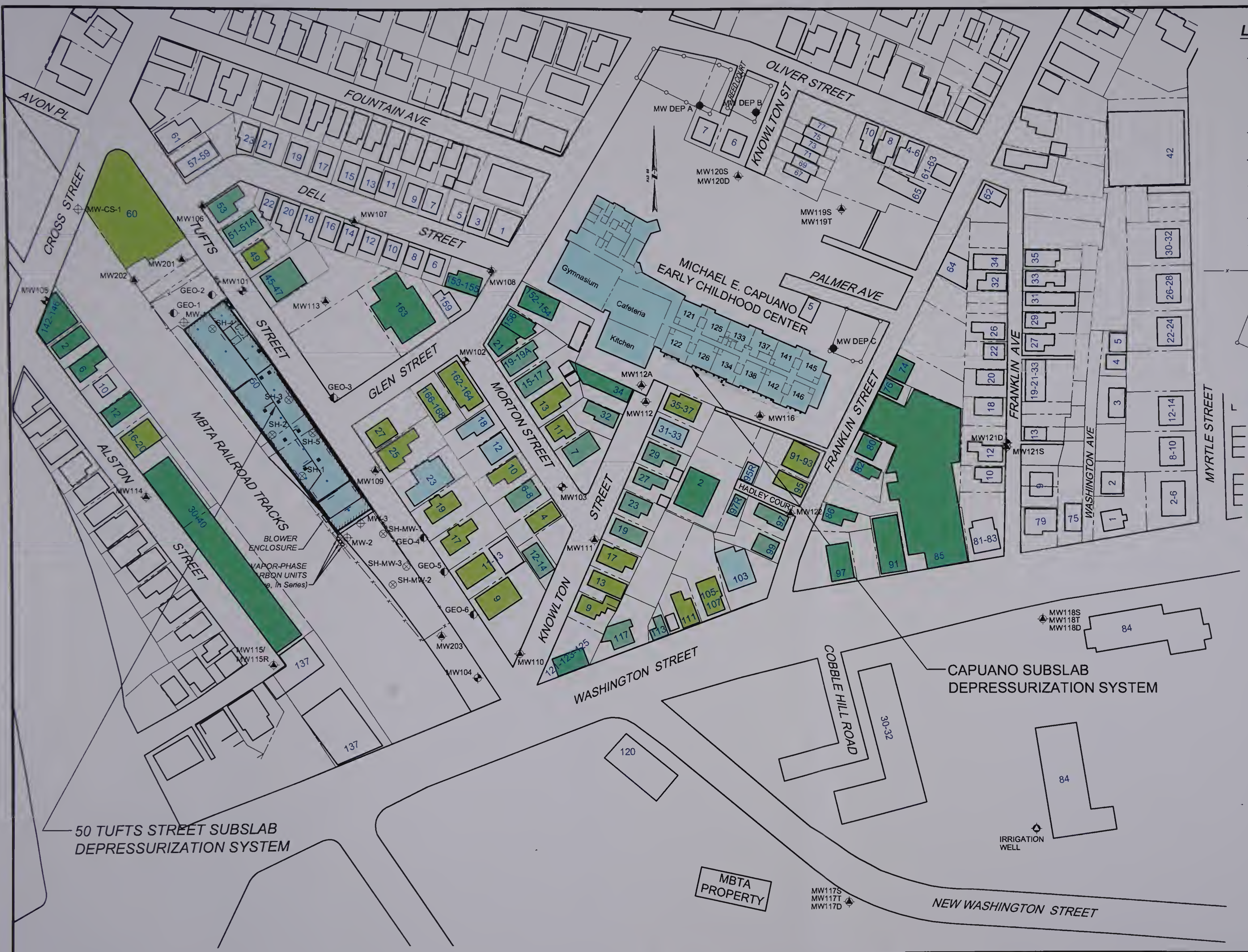

LEGEND:

- MONITORING WELL WITH SOIL VAPOR SAMPLE PORT INSTALLED BY GEI, JANUARY 2007 - JANUARY 2008
- ⊗ MONITORING WELL INSTALLED BY SANBORN HEAD ASSOCIATES, 2002
- MONITORING WELL INSTALLED BY GEOINSIGHT, JUNE 2004
- MONITORING WELL INSTALLED BY GEI, MAY 2006
- ● DRIVEN POINT MONITORING WELL INSTALLED BY MADEP, MAY 2007
- MONITORING WELL INSTALLED PREVIOUSLY, DATE UNKNOWN
- PREVIOUSLY INSTALLED IRRIGATION WELL
- —x—x— CHAIN LINK FENCE
- 138 ROOM NUMBER AT CAPUANO SCHOOL
- BOUNDARY OF COMMUNITY GARDENS
- 84 STREET ADDRESS
- 🟦 EXPOSURE PATHWAY ELIMINATION MEASURE (EPEM) INSTALLED
- 🟩 EPEM PROPOSED
- 🟩 EPEM ASSUMED TO BE REQUIRED FOR THE PURPOSE OF THIS PHASE III EVALUATION OF RAA1
- 🟩 EPEM NOT REQUIRED

CAPUANO SUBSLAB DEPRESSURIZATION SYSTEM

50 TUFTS STREET SUBSLAB DEPRESSURIZATION SYSTEM

GENERAL NOTES:

1. HORIZONTAL CONTROL FOR THIS PLAN WAS ESTABLISHED BY GPS AND IS BASED ON THE NORTH AMERICAN DATUM OF 1983.
2. STREET AND PROPERTY LINES BASED ON SOMERVILLE ASSESSORS' MAPS AND ARE BEST FIT RELATIVE TO THE LOCATION OF THE 50 TUFTS ST. BUILDING.
3. MONITORING WELL LOCATIONS AND ELEVATIONS, AND CAPUANO CENTER COMMUNITY GARDEN LOCATIONS WERE ESTABLISHED BY ON THE GROUND SURVEYS BY BSC GROUP, INC.
4. GEI OBSERVED ABANDONMENT OF SH-MW1 AND SH-1 THROUGH SH-5 IN 2007.

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RAA1 -
SITE-WIDE EPEMs
AND MNA

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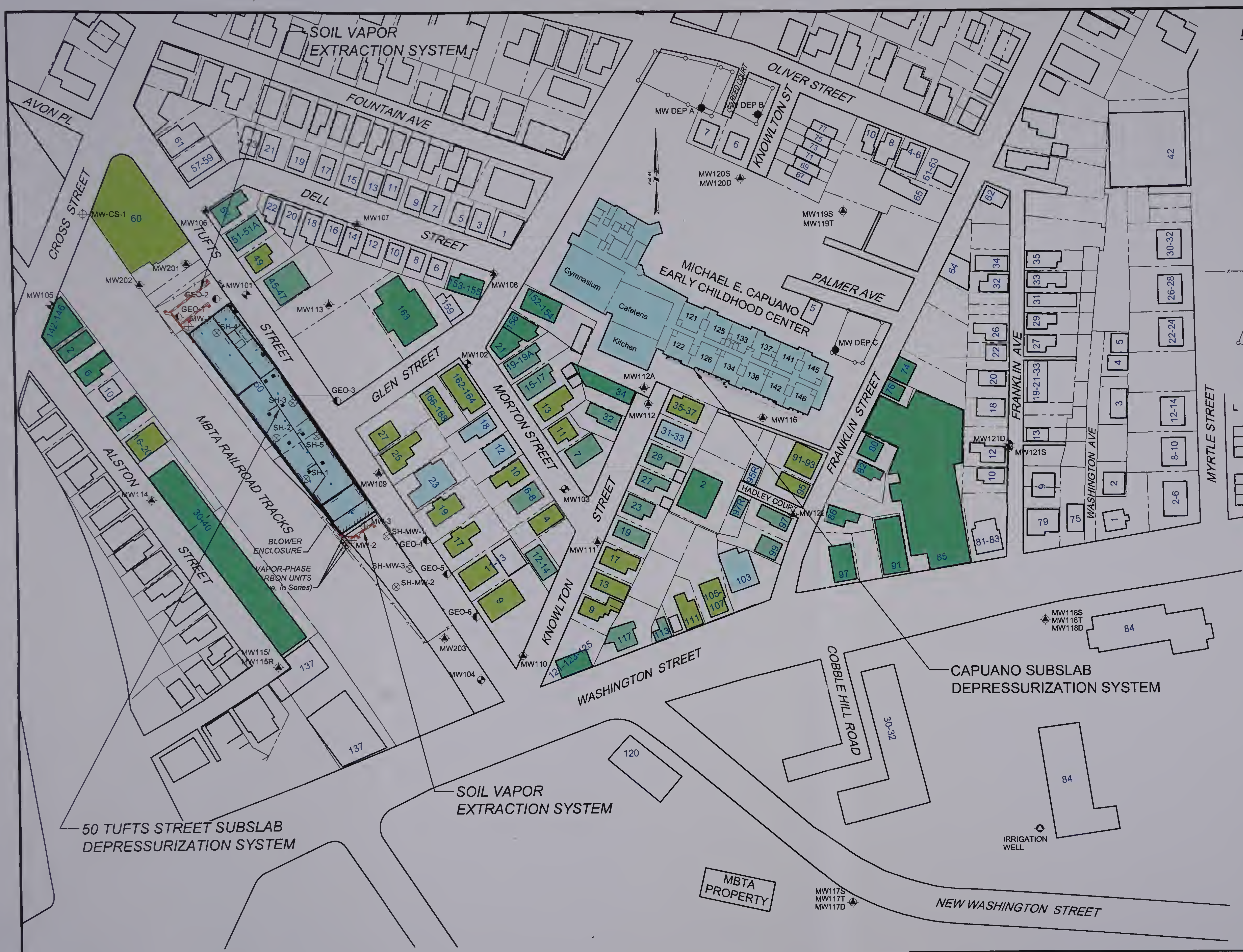

LEGEND:

- ◈ MONITORING WELL WITH SOIL VAPOR SAMPLE PORT INSTALLED BY GEI, JANUARY 2007 - JANUARY 2008
- ⊗ MONITORING WELL INSTALLED BY SANBORN HEAD ASSOCIATES, 2002
- ◐ MONITORING WELL INSTALLED BY GEOINSIGHT, JUNE 2004
- ◑ MONITORING WELL INSTALLED BY GEI, MAY 2006
- ● DRIVEN POINT MONITORING WELL INSTALLED BY MADEP, MAY 2007
- ⊕ MONITORING WELL INSTALLED PREVIOUSLY, DATE UNKNOWN
- ▲ PREVIOUSLY INSTALLED IRRIGATION WELL
- —x—x— CHAIN LINK FENCE
- 138 ROOM NUMBER AT CAPUANO SCHOOL
- ◇ BOUNDARY OF COMMUNITY GARDENS
- 84 STREET ADDRESS
- 🟦 EXPOSURE PATHWAY ELIMINATION MEASURE (EPEM) INSTALLED
- 🟩 EPEM PROPOSED
- 🟩 EPEM ASSUMED TO BE REQUIRED FOR THE PURPOSE OF THIS PHASE III EVALUATION OF RAA2
- 🟩 EPEM NOT REQUIRED

GENERAL NOTES:

1. HORIZONTAL CONTROL FOR THIS PLAN WAS ESTABLISHED BY GPS AND IS BASED ON THE NORTH AMERICAN DATUM OF 1983.
2. STREET AND PROPERTY LINES BASED ON SOMERVILLE ASSESSORS' MAPS AND ARE BEST FIT RELATIVE TO THE LOCATION OF THE 50 TUFTS ST. BUILDING.
3. MONITORING WELL LOCATIONS AND ELEVATIONS, AND CAPUANO CENTER COMMUNITY GARDEN LOCATIONS WERE ESTABLISHED BY ON THE GROUND SURVEYS BY BSC GROUP, INC.
4. GEI OBSERVED ABANDONMENT OF SH-MW1 AND SH-1 THROUGH SH-5 IN 2007.

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RAA2 -
SVE AT THE PROPERTY, SITE-WIDE EPEMs, AND MNA

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Fig. 13-2

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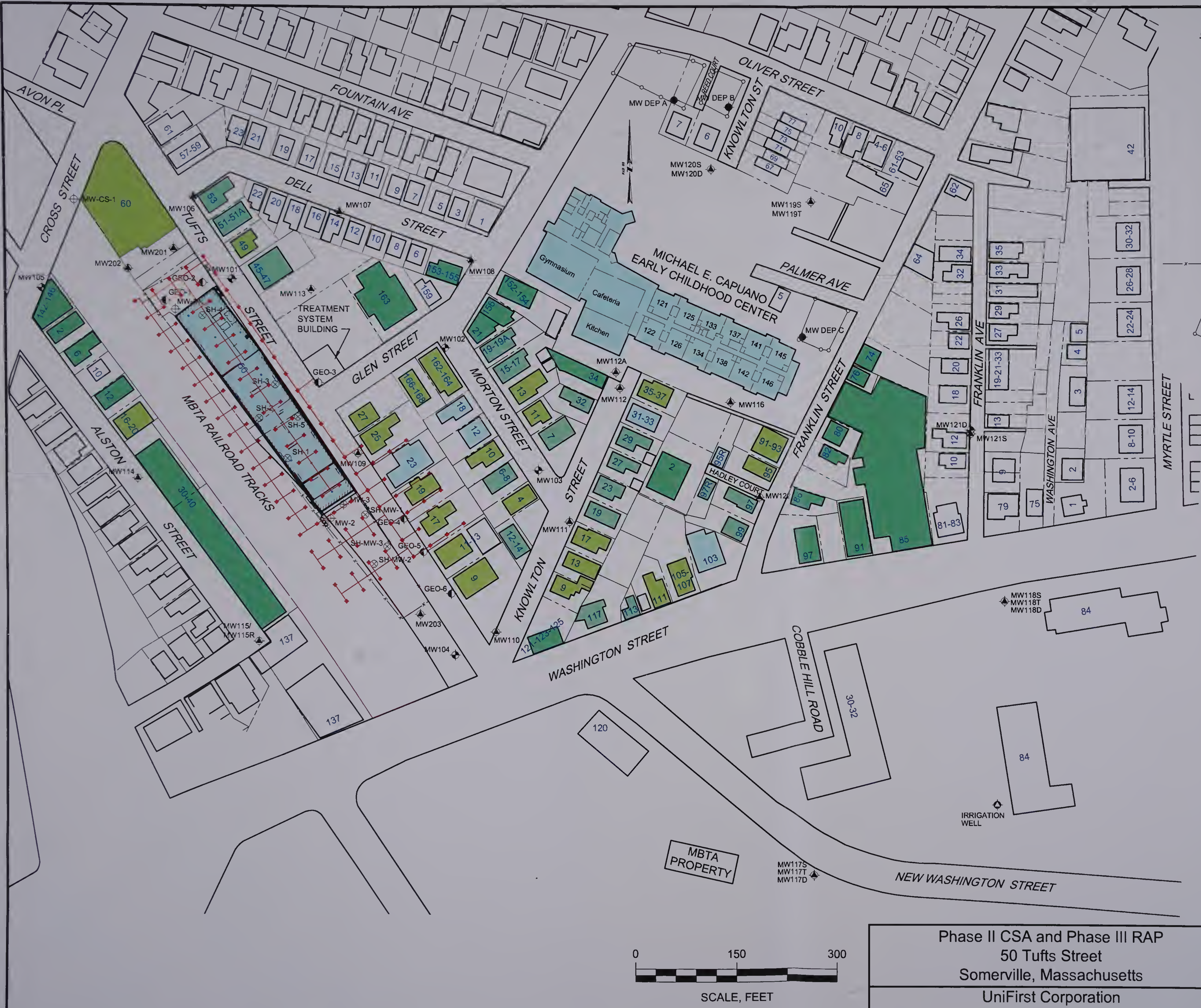

LEGEND:

◆	MONITORING WELL WITH SOIL VAPOR SAMPLE PORT INSTALLED BY GEI, JANUARY 2007 - JANUARY 2008
⊗	MONITORING WELL INSTALLED BY SANBORN HEAD ASSOCIATES, 2002
◐	MONITORING WELL INSTALLED BY GEOINSIGHT, JUNE 2004
⊕	MONITORING WELL INSTALLED BY GEI, MAY 2006
●	DRIVEN POINT MONITORING WELL INSTALLED BY MADEP, MAY 2007
⊕	MONITORING WELL INSTALLED PREVIOUSLY, DATE UNKNOWN
▲	PREVIOUSLY INSTALLED IRRIGATION WELL
—x—	CHAIN LINK FENCE
138	ROOM NUMBER AT CAPUANO SCHOOL
◇	BOUNDARY OF COMMUNITY GARDENS
84	STREET ADDRESS
🟦	EXPOSURE PATHWAY ELIMINATION MEASURE (EPEM) INSTALLED
🟨	EPEM PROPOSED
🟩	EPEM ASSUMED TO BE REQUIRED FOR THE PURPOSE OF THIS PHASE III EVALUATION OF RAA3
🟩	EPEM NOT REQUIRED
⊕	CONCEPTUAL DUAL PHASE EXTRACTION POINT
—	CONCEPTUAL DUAL PHASE PIPING NETWORK

GENERAL NOTES:

1. HORIZONTAL CONTROL FOR THIS PLAN WAS ESTABLISHED BY GPS AND IS BASED ON THE NORTH AMERICAN DATUM OF 1983.
2. STREET AND PROPERTY LINES BASED ON SOMERVILLE ASSESSORS' MAPS AND ARE BEST FIT RELATIVE TO THE LOCATION OF THE 50 TUFTS ST. BUILDING.
3. MONITORING WELL LOCATIONS AND ELEVATIONS, AND CAPUANO CENTER COMMUNITY GARDEN LOCATIONS WERE ESTABLISHED BY ON THE GROUND SURVEYS BY BSC GROUP, INC.
4. GEI OBSERVED ABANDONMENT OF SH-MW1 AND SH-1 THROUGH SH-5 IN 2007.

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RAA3 - DPE AT AND IMMEDIATELY EAST OF THE PROPERTY, MNA, AND DOWNGRADIENT EPEMs

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Fig. 13-3

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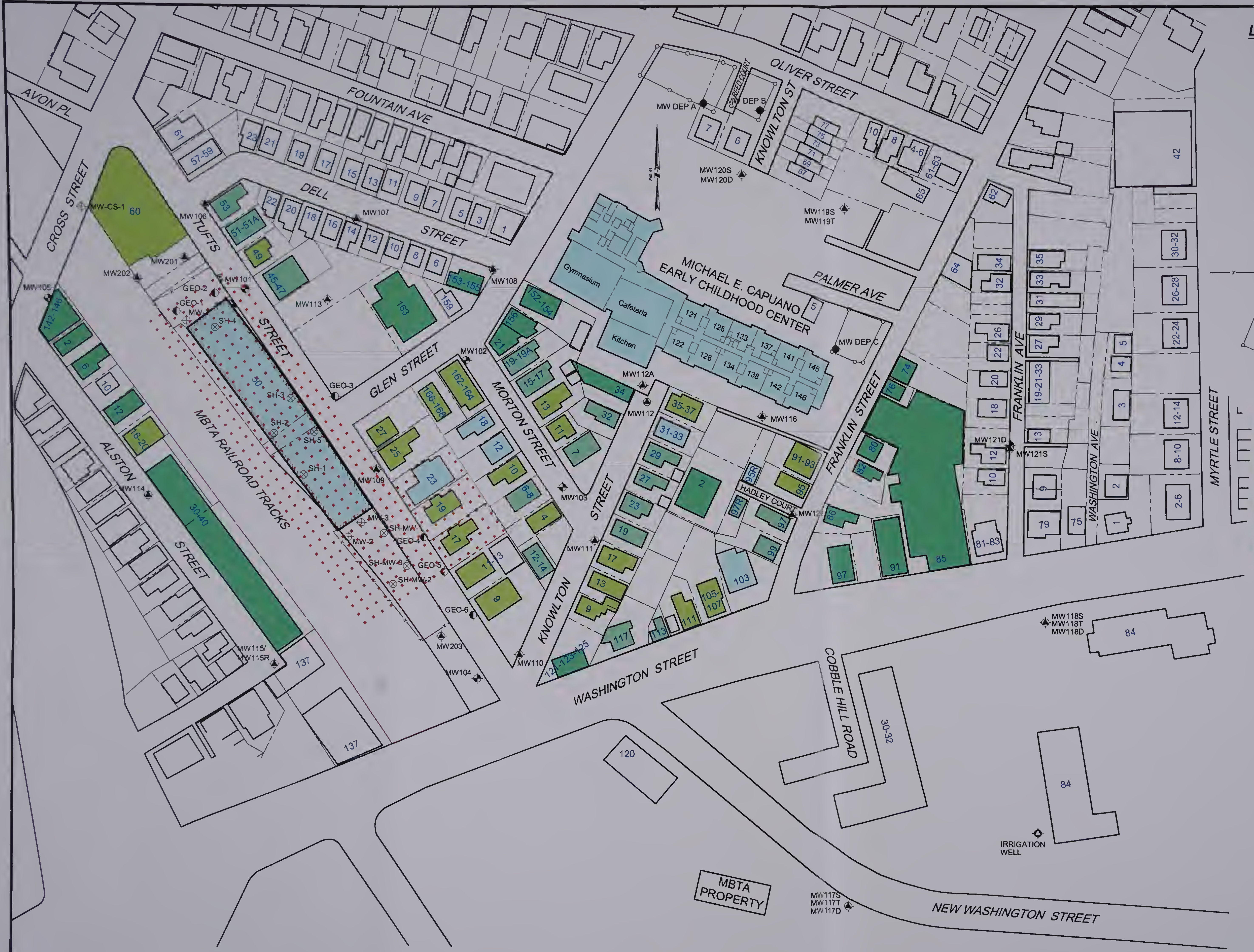

LEGEND:

- ◈ MONITORING WELL WITH SOIL VAPOR SAMPLE PORT INSTALLED BY GEI, JANUARY 2007 - JANUARY 2008
- ⊗ MONITORING WELL INSTALLED BY SANBORN HEAD ASSOCIATES, 2002
- ◐ MONITORING WELL INSTALLED BY GEOINSIGHT, JUNE 2004
- ⊕ MONITORING WELL INSTALLED BY GEI, MAY 2006
- ● DRIVEN POINT MONITORING WELL INSTALLED BY MADEP, MAY 2007
- ⊕ MONITORING WELL INSTALLED PREVIOUSLY, DATE UNKNOWN
- △ PREVIOUSLY INSTALLED IRRIGATION WELL
- —x—x— CHAIN LINK FENCE
- 138 ROOM NUMBER AT CAPUANO SCHOOL
- ▱ BOUNDARY OF COMMUNITY GARDENS
- 84 STREET ADDRESS
- • CHEMICAL OXIDATION INJECTION POINT (CONCEPTUAL)
- 🟦 EXPOSURE PATHWAY ELIMINATION MEASURE (EPEM) INSTALLED
- 🟩 EPEM PROPOSED
- 🟩 EPEM ASSUMED TO BE REQUIRED FOR THE PURPOSE OF THIS PHASE III EVALUATION OF RAA4
- 🟩 EPEM NOT REQUIRED

GENERAL NOTES:

1. HORIZONTAL CONTROL FOR THIS PLAN WAS ESTABLISHED BY GPS AND IS BASED ON THE NORTH AMERICAN DATUM OF 1983.
2. STREET AND PROPERTY LINES BASED ON SOMERVILLE ASSESSORS' MAPS AND ARE BEST FIT RELATIVE TO THE LOCATION OF THE 50 TUFTS ST. BUILDING.
3. MONITORING WELL LOCATIONS AND ELEVATIONS, AND CAPUANO CENTER COMMUNITY GARDEN LOCATIONS WERE ESTABLISHED BY ON THE GROUND SURVEYS BY BSC GROUP, INC.
4. GEI OBSERVED ABANDONMENT OF SH-MW1 AND SH-1 THROUGH SH-5 IN 2007.

0 150 300
SCALE, FEET

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RAA4 - CHEM-OX AT AND IMMEDIATELY EAST OF THE PROPERTY, MNA, AND DOWNGRADIENT EPEMs

Project 04516-2 | July 2008 | Fig. 13-4

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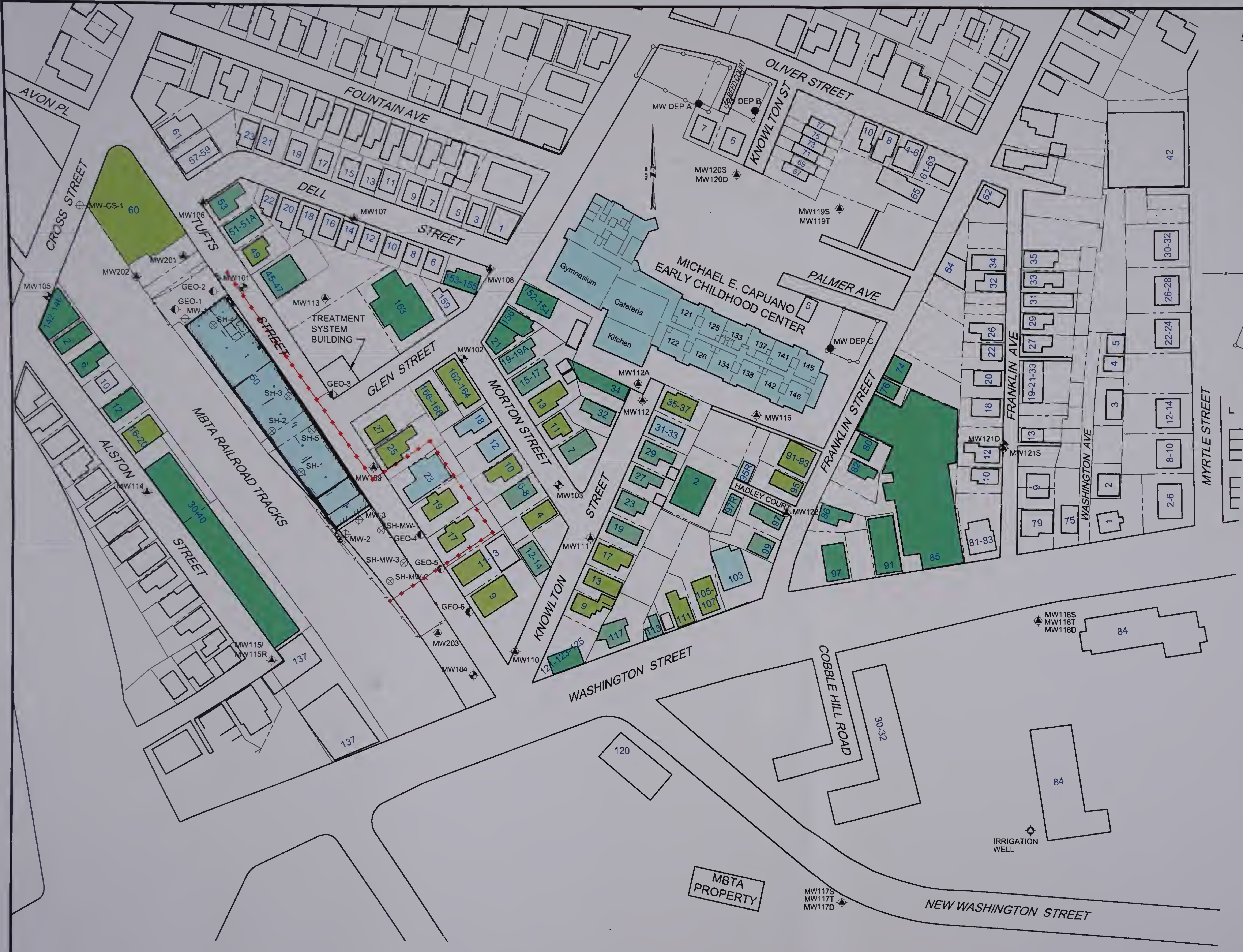

0 150 300

SCALE, FEET

LEGEND:

- MONITORING WELL WITH SOIL VAPOR SAMPLE PORT INSTALLED BY GEI, JANUARY 2007 - JANUARY 2008
- ⊗ MONITORING WELL INSTALLED BY SANBORN HEAD ASSOCIATES, 2002
- MONITORING WELL INSTALLED BY GEOINSIGHT, JUNE 2004
- MONITORING WELL INSTALLED BY GEI, MAY 2006
- ● DRIVEN POINT MONITORING WELL INSTALLED BY MADEP, MAY 2007
- ⊕ MONITORING WELL INSTALLED PREVIOUSLY, DATE UNKNOWN
- PREVIOUSLY INSTALLED IRRIGATION WELL
- —x—x— CHAIN LINK FENCE
- 138 ROOM NUMBER AT CAPUANO SCHOOL
- BOUNDARY OF COMMUNITY GARDENS
- 84 STREET ADDRESS
- 🟦 EXPOSURE PATHWAY ELIMINATION MEASURE (EPEM) INSTALLED
- 🟩 EPEM PROPOSED
- 🟩 EPEM ASSUMED TO BE REQUIRED FOR THE PURPOSE OF THIS PHASE III EVALUATION OF RAA5
- 🟩 EPEM NOT REQUIRED
- ⊕ CONCEPTUAL GROUNDWATER EXTRACTION WELL
- — CONCEPTUAL GROUNDWATER PIPING

GENERAL NOTES:

1. HORIZONTAL CONTROL FOR THIS PLAN WAS ESTABLISHED BY GPS AND IS BASED ON THE NORTH AMERICAN DATUM OF 1983.
2. STREET AND PROPERTY LINES BASED ON SOMERVILLE ASSESSORS' MAPS AND ARE BEST FIT RELATIVE TO THE LOCATION OF THE 50 TUFTS ST. BUILDING.
3. MONITORING WELL LOCATIONS AND ELEVATIONS, AND CAPUANO CENTER COMMUNITY GARDEN LOCATIONS WERE ESTABLISHED BY ON THE GROUND SURVEYS BY BSC GROUP, INC.
4. GEI OBSERVED ABANDONMENT OF SH-MW1 AND SH-1 THROUGH SH-5 IN 2007.

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RAA5 -
HYDRAULIC CONTROL, MNA, AND SITE-WIDE EPEMs

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Fig. 13-5

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Ecological